

Leica Viva GNSS Equipment List



- when it has to be **right**

Leica
Geosystems

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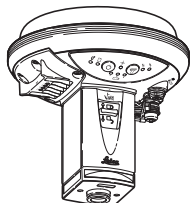
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GS15 GNSS Receiver

1 GS15 GNSS Receiver



771 501	GS15	Leica GS15 Single Frequency SmartAntenna
771 503	GS15	Leica GS15 Performance SmartAntenna
771 504	GS15	Leica GS15 Professional SmartAntenna

	Leica GS15 Single Frequency	Leica GS15 Performance	Leica GS15 Professional
Supported GNSS Systems			
GPS L2	○	●	●
GPS L5	○	○	●
GLONASS	○	○	●
Galileo	○	○	●
RTK performance			
DGPS	○	●	●
RTK unlimited	○	●	●
Network RTK	○	●	●
Leica Lite RTK	○	○	●
Position update & data recording			
5 Hz positioning	●	●	●
20 Hz positioning	○	●	●
Raw data logging	●	●	●
RINEX logging	○	○	●
NMEA out	○	○	●
Additional features			
RTK Reference Station functionality	○	●	●

● Standard
○ Optional

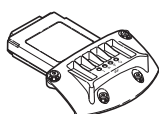
2 Additional GS15 Receiver Options

GNSS software options		
771 500	LOP19	GPS L2 option, enables GPS L2 and GPS L2C tracking on a GS10, GS15 or GS25 receiver.
767 804	LOP1	GPS L5 option, enables GPS L5 tracking on a GS10, GS15 or GS25 receiver.
767 805	LOP2	GLONASS option, enables GLONASS tracking on a GS10, GS15 or GS25 receiver.
767 806	LOP3	Galileo option, enables Galileo tracking on GS10, GS15 or GS25 receiver.
Position rate and data recording options		
767 807	LOP4	5Hz option, enables to compute positions with an update rate up to 5Hz.
767 808	LOP5	20Hz option, enables to compute positions with an update rate up to 20Hz.
767 809	LOP6	Upgrade option from 5Hz to 20Hz. (LOP4 to LOP5)
767 810	LOP7	Raw data option, allows logging of GNSS raw data on GS10, GS15 or GS25 receiver or on a CS10/CS15 field controller.
767 811	LOP8	RINEX option, allows logging of RINEX data on GS10, GS15 or GS25 receiver.
767 818	LOP15	NMEA out option, enables NMEA to be streamed from GS10, GS15 or GS25 receivers.

RTK related options

771 497	LOP16	DGPS option for GS10, GS15 or GS25 receivers, enables the receiver to compute a DGPS position.
767 813	LOP10	Unlimited RTK option, enables RTK positions to be computed from a single base station with no limit of distance.
767 815	LOP12	Unlimited RTK and Network RTK, enables RTK position to be computed from a single base station and within a RTK network.
767 817	LOP14	Upgrade option for GS10, GS15 or GS25 receivers from RTK unlimited only to RTK unlimited including RTK Network. (LOP10 to LOP12)
771 971	LOP20	Leica Lite option, to receive GS09 RTK data on the GS10, GS15 or GS25 receivers.
Other options		
767 816	LOP13	RTK Reference station option, allows a GS10, GS15 or GS25 receiver to transmit RTK data.

3 RTK Modems

**Satellite radio modules**

781 646	SLR5	Satellite M3 TR1 403-470 MHz RX/TX radio. RTK receive and transmit UHF radio module to be easily plugged into the GS15 GNSS receiver.
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Pacific Crest radio modules

767 821	SLR3-1	Pacific Crest ADL RX/TX radio 390-430 MHz. RTK receive and transmit UHF radio module to be easily plugged into the GS15 GNSS receiver.
767 822	SLR3-2	Pacific Crest ADL RX/TX radio 430-470 MHz. RTK receive and transmit UHF radio module to be easily plugged into the GS15 GNSS receiver.

Radio programming tool kit

6002544		Configuration tool kit for programming Satellite and Pacific Crest SLR RTK radio modules; includes programming cable GEV231 and configuration software CD ROM.
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SLR radios will be delivered pre-configured according to country-specific radio regulations. In countries where radios need to be configured locally, the configuration tool kit is to be used.



External high power radios such as Satellite Easy Pro (35W), Pacific Crest (2, 35W) or GFU radios can be used for RTK communication instead of the slot-in RTK modems.

Mobile phone modules

767 823	SLG1	5-Band (850/900/1800/1900/2100 MHz) Telit 3.5G GSM/GPRS/UMTS module. Provides full flexibility due to 5-band technology and is globally compatible to all GSM, GPRS, EDGE and UMTS network providers. Can be easily plugged into the GS15 GNSS receiver.
774 689	SLG2	4-Band (850/900/1800/1900 MHz) Siemens MC75i GSM/GPRS module. Universal 4-band technology supports GSM, GPRS, and EDGE network providers. Can be easily plugged into the GS15 GNSS receiver.
767 824	SLC1	Dual band Telit CDMA 1xRTT module for US. Supports Sprint (US) network provider and can be easily plugged into the GS15 GNSS receiver.

Satellite High Power radios

789 636	HPR2	Satellite Easy Pro 35W high power radio, 403-473 MHz RX/TX radio. Includes power cable for connecting to 12V battery and programming cable.
636 805	GEV114	Data cable to connect Satellite Easy Pro 35W high power radio to GS GNSS receiver.
806 097	GVP712	Container for Satel HPR2 High Power Radio.

4 External RTK Antennas

4.1 External RTK Antennas



The GS15 receiver is equipped with internal GSM/GPRS/UMTS antenna and internal UHF antenna as standard. In areas of poor GSM/GPRS/UMTS or UHF reception, the use of an external RTK antenna may improve reception.



RTK antenna arm

767 790	GAD108	Arm to mount external UHF/GSM antenna to GS15 SmartAntenna, useful in areas of poor radio or GSM network reception.
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Gainflex radio antennas

639 964	GAT1	Gainflex radio antenna (frequency range 400-435 MHz).
667 243	GAT2	Gainflex radio antenna (frequency range 435-470 MHz).

Antennas for mobiles phones

782 500	GAT18	Multiband GSM/UMTS Antenna for 850/1900 MHz, for 900/1800 MHz and for 2100 MHz mobile networks.
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4.2 Accessories for Mounting External RTK Antenna on Second Tripod (Base)



Adapter

767 791	GAD109	Transition adapter from external UHF/GSM antenna connector of a GS15 SmartAntenna to standard TNC connector. Allows to connect an external GSM/UHF antenna via gainflex cable to the GS15 SmartAntenna using the receiver as a Reference Station.
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RTK antenna cables

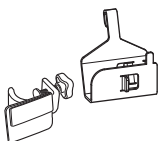
636 959	GEV120	2.8m antenna cable.
667 201	GEV142	1.6m extension antenna cable.



Telescopic rod, antenna arm and base for telescopic rod

667 228	GAD32	Telescopic rod with 5/8" screw. Fits in base 667 236.
667 220	GAD34	Arm 3cm long, screws on telescopic rod. Gainflex antenna fits on arm. Antenna cable connects to arm.
667 236	GHT36	Base with 5/8" screw, for setting up telescopic rod on tripod.

5 Accessories for Using External Radios with GS15 Receiver



Radio cables to GFU radios

767 897	GEV232	Radio cable, 2.8m, connects GS15 receiver to GFU devices.
767 898	GEV233	Radio cable, 0.8m, connects GS15 receiver to GFU devices.

Brackets and holders for GFU radios

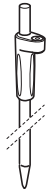
748 417	GHT58	Bracket to mount a radio built into the Leica GFU radio housing on a tripod.
767 896	GHT64	Holder for GFU radios. Attaches to all GPS poles.

Cables for external radios

733 297	GEV171	1.8m Y-cable to program the Sateline radio modem inside the GFU27 housing.
639 968	GEV125	Cable for Sateline radios without GFU housing to be connected to GS10/GS15 receivers.
748 418	GEV205	Y-cable for RTK reference setup, connects GS15 receiver to a GEB171 external battery and a Leica GFU radio.

6 Additional Accessories for GS15 Pole Setups - GNSS Rover

6.1 Survey Poles



Poles with 5/8" screw

768 226	GLS13	Telescopic aluminium GNSS pole with 5/8" screw. Snap locks at 1.80m and 2.00m. Includes circular bubble.
752 292	GLS30	Telescopic carbon GNSS pole with 5/8" screw. Snap locks at 1.80m and 2.00m. Includes circular bubble.

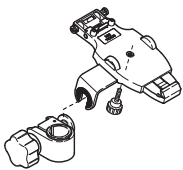
Poles with stub



Requires GAD31 screw to stub adapter for GS15 receiver to be mounted on these poles.

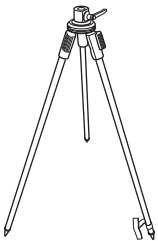
766 359	GLS31	Telescopic carbon Total Station reflector pole with stub. Snap locks at 2.00m for GNSS antennas.
667 217	GAD31	Screw to stub adapter.

6.2 Holder and Clamp for Poles



767 879	GHT62	Pole holder base plate for CS10 and CS15 field controller.
767 880	GHT63	Clamp arrangement for attaching the GHT62 to all poles.

6.3 QuickStand



560 138	GST6	Quickstand with 3 telescopic legs, for aluminium poles.
667 319	GSR111	Dual-strut support, for all GLS poles.

7 Additional Accessories using the GS15 Receiver in a SmartPole Setup



Please refer to the Leica Viva TPS TS11/TS15 and Leica Nova TPS MS50, TS50 and TM50 Equipment lists for additional accessories using the GS15 receiver in a SmartPole setup.

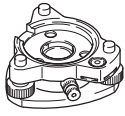
8 Additional Accessories using the GS15 Receiver in a SmartStation Setup



Please refer to the Leica Viva TPS TS11/TS15 and Leica Nova TPS MS50, TS50 and TM50 Equipment lists for additional accessories using the GS15 receiver in a SmartStation setup.

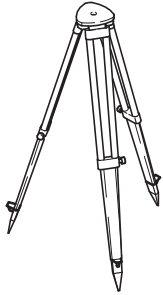
9 Additional Accessories for GS15 Tripod Setups - GNSS Base

9.1 Tribrachs



777 508	GDF321	Tribrach, without optical plummet.
777 509	GDF322	Tribrach, with optical plummet.
798 181	GDF112-1	Tribrach, with optical plummet.

9.2 Tripods



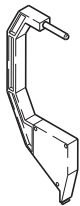
399 244	GST05	Wooden tripod with polymer coating, with accessories.
563 630	GST05L	Aluminium tripod, telescopic, with accessories.
667 301	GST120-9	Tripod, telescopic, selfclosing, with accessories, without pouch.

9.3 Carriers



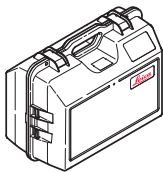
770 715	GRT247	Carrier with 5/8" screw for GS15 SmartAntenna.
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9.4 Height Hook



667 244	GZS4-1	Height hook with integrated tape measure. Supplied with additional tape graduated in feet and inches.
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10 Containers for GS15 Receiver



 All GS15 need to be ordered with at least one container.

767 827	GVP641	Hard container for 2x GS15 GNSS SmartAntenna and CS10/CS15 field controller. The container allows a GS15 base station and GS15 rover with all accessories to be transported.
767 828	GVP642	Hard container for GS15 SmartAntenna and CS10/CS15 field controller. The container allows a GS15 rover, and all accessories for a SmartStation and SmartPole to be transported.

GS14 GNSS Receiver

11 GS14 GNSS Receiver



795 971	GS14	2G Single Frequency SmartAntenna
795 974	GS14	2G Performance SmartAntenna
795 975	GS14	2G Professional SmartAntenna
807 524	GS14	3.75G Single Frequency SmartAntenna
807 525	GS14	3.75G Performance SmartAntenna
807 526	GS14	3.75G Professional SmartAntenna
807 527	GS14	3.75G & UHF Single Frequency SmartAntenna
807 528	GS14	3.75G & UHF Performance SmartAntenna
807 529	GS14	3.75G & UHF Professional SmartAntenna
807 530	GS14	3.75G & UHF Single Frequency SmartAntenna (US/CAN)
807 531	GS14	3.75G & UHF Performance SmartAntenna (US/CAN)
807 532	GS14	3.75G & UHF Professional SmartAntenna (US/CAN)

	Leica GS14 Single Frequency	Leica GS14 Performance	Leica GS14 Professional
Supported GNSS Systems			
GPS L2	○	●	●
GLONASS	○	○	●
Galileo	○	○	●
RTK performance			
DGPS	○	●	●
RTK unlimited	○	●	●
Network RTK	○	●	●
Leica Lite RTK	○	○	●
Position update & data recording			
5 Hz positioning	●	●	●
20 Hz positioning	○	●	●
Raw data logging	●	●	●
RINEX logging	○	○	●
NMEA out	○	○	●
Additional features			
RTK Reference Station functionality	○	●	●

- Standard
- Optional

12 Additional GS14 Receiver Options

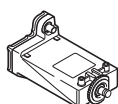
GNSS software options		
805 197	LOP35	GS14 GPS L2 option, enables GPS L2 and GPS L2C tracking on a GS14 receiver.
795 981	LOP29	GS14 GLONASS option, enables GLONASS on a GS14 receiver.
795 982	LOP30	GS14 Galileo option, enables Galileo on a GS14 receiver.
Position rate and data recording options		
795 983	LOP31	GS14 20Hz option, enables to compute positions with an update rate up to 20Hz on a GS14.
767 810	LOP7	Raw data option, allows logging of GNSS raw data on GS10, GS14, GS15 or GS25 receiver or on a CS10/CS15 field controller.
767 811	LOP8	RINEX option, allows logging of RINEX data on GS10, GS14, GS15 or GS25 receiver.

767 818	LOP15	NMEA out option, enables NMEA to be streamed from GS10, GS14, GS15 or GS25 receivers.
RTK related options		
771 497	LOP16	DGPS option for GS10, GS14, GS15 or GS25 receivers, enables the receiver to compute a DGPS position.
767 813	LOP10	Unlimited RTK option, enables RTK positions to be computed from a single base station with no limit of distance.
767 815	LOP12	Unlimited RTK and Network RTK, enables RTK position to be computed from a single base station and within a RTK network.
767 817	LOP14	Upgrade option for GS10, GS14, GS15 or GS25 receivers from RTK unlimited only to RTK unlimited including RTK Network. (LOP10 to LOP12)
771 971	LOP20	Leica Lite option, to receive GS09 RTK data on the GS10, GS14, GS15 or GS25 receivers.
Other options		
767 816	LOP13	RTK Reference station option, allows a GS10, GS14, GS15 or GS25 receiver to transmit RTK data.

13 RTK Modems

The GS14 2G/3.75G models are equipped with an internal modem and integrated antenna for RTK Rover and RTK Base usage. For UHF RTK Rover or Base usage external radio modems can be connected. The GS14 UHF models are equipped with internal modem and internal UHF radio for RTK Rover and RTK Base usage. The UHF modem requires an external RTK antenna.

13.1 Sateline Radio Modem



Sateline modem

767 859	GFU27	Sateline M3 TR1 403-470 MHz RX/TX radio in GFU housing. Transceiver UHF radio module. User manual and CE Declaration of Conformity included.
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Cables for Sateline modem

733 297	GEV171	1.8m Y-cable to program the Sateline radio modem inside the GFU27 housing.
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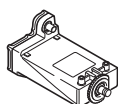
13.2 Sateline High Power Radio

789 636	HPR2	Sateline-EASY Pro 35W high power radio, 403-473 MHz RX/TX radio. Includes power cable for connecting to 12V battery and programming cable.
799 776	GEV266	Data cable to connect Sateline Easy Pro 35W high power radio to GS14 GNSS receiver.
806 097	GVP712	Container for Satel HPR2 High Power Radio.

13.3 Pacific Crest Radio Modems



Pacific Crest radio modems must be ordered directly from your local Pacific Crest office or representative.

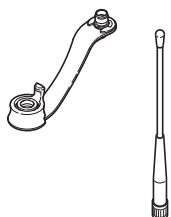


PDL receive only modems built into the Leica GFU radio housing with 12.5 or 25kHz channel spacing within the following frequency bands are available:

- 410 - 430 MHz
- 430 - 450 MHz
- 450 - 470 MHz

14 External RTK Antennas

14.1 External RTK Antennas



RTK antenna arm

767 790	GAD108	Arm to mount external UHF antenna to GS14 SmartAntenna.
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Gainflex radio antennas

639 964	GAT1	Gainflex radio antenna (frequency range 400-435 MHz).
667 243	GAT2	Gainflex radio antenna (frequency range 435-470 MHz).

14.2 Accessories for Mounting External RTK Antenna on Second Tripod (Base)



Adapter

767 791	GAD109	Transition adapter from external UHF antenna connector of a GS14 SmartAntenna to standard TNC connector. Allows to connect an external UHF antenna directly or via gainflex cable.
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RTK antenna cables

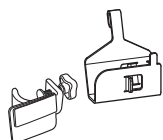
636 959	GEV120	2.8m antenna cable.
667 201	GEV142	1.6m extension antenna cable.



Telescopic rod, antenna arm and base for telescopic rod

667 228	GAD32	Telescopic rod with 5/8" screw. Fits in base 667 236.
667 220	GAD34	Arm 3cm long, screws on telescopic rod. Gainflex antenna fits on arm. Antenna cable connects to arm.
667 236	GHT36	Base with 5/8" screw, for setting up telescopic rod on tripod.

15 Accessories for Using External Radios with GS14 Receiver



Brackets and holders for GFU radios

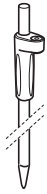
748 417	GHT58	Bracket to mount a radio built into the Leica GFU radio housing on a tripod.
767 896	GHT64	Holder for GFU radios. Attaches to all GPS poles.

Cables for GFU radios

733 297	GEV171	1.8m Y-cable to program the Satelline radio modem inside the GFU27 housing.
796 492	GEV264	1.8m Y-cable for RTK reference setup, connects GS14 receiver to a GEB171 external battery and a Leica GFU radio.

16 Additional Accessories for GS14 Pole Setups - GNSS Rover

16.1 Survey Poles



Poles with 5/8" screw

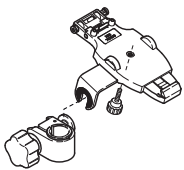
768 226	GLS13	Telescopic aluminium GNSS pole with 5/8" screw. Snap locks at 1.80m and 2.00m. Includes circular bubble.
752 292	GLS30	Telescopic carbon GNSS pole with 5/8" screw. Snap locks at 1.80m and 2.00m. Includes circular bubble.

Poles with stub

 Requires GAD31 screw to stub adapter for GS14 receiver to be mounted on these poles.

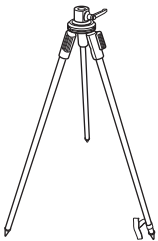
766 359	GLS31	Telescopic carbon Total Station reflector pole with stub. Snap locks at 2.00m for GNSS antennas.
667 217	GAD31	Screw to stub adapter.

16.2 Holder and Clamp for Poles



767 879	GHT62	Pole holder base plate for CS10 and CS15 field controller.
767 880	GHT63	Clamp arrangement for attaching the GHT62 to all poles.

16.3 QuickStand



560 138	GST6	Quickstand with 3 telescopic legs, for aluminium poles.
667 319	GSR111	Dual-strut support, for all GLS poles.

17 Additional Accessories using the GS14 Receiver in a SmartPole Setup

 Please refer to the Leica Viva TPS TS11/TS15 and Leica Nova TPS MS50, TS50 and TM50 Equipment lists for additional accessories using the GS14 receiver in a SmartPole setup.

18 Additional Accessories using the GS14 Receiver in a SmartStation Setup

 Please refer to the Leica Viva TPS TS11/TS15 and Leica Nova TPS MS50, TS50 and TM50 Equipment lists for additional accessories using the GS14 receiver in a SmartStation setup.

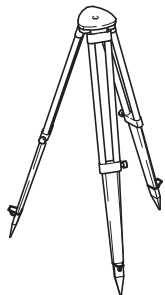
19 Additional Accessories for GS14 Tripod Setups - GNSS Base

19.1 Tribrachs



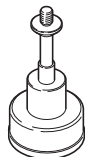
777 508	GDF321	Tribrach, without optical plummet.
777 509	GDF322	Tribrach, with optical plummet.
798 181	GDF112-1	Tribrach, with optical plummet.

19.2 Tripods



399 244	GST05	Wooden tripod with polymer coating, with accessories.
563 630	GST05L	Aluminium tripod, telescopic, with accessories.
667 301	GST120-9	Tripod, telescopic, selfclosing, with accessories, without pouch.

19.3 Carriers



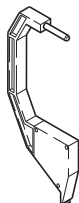
Carriers with 5/8" screw

667 216	GRT146	Carrier with 5/8" screw, GNSS antenna screws on directly.
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Carriers with stub

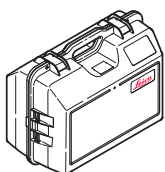
667 313	GRT144	Carrier with stub, pale green.
667 217	GAD31	Screw-to-stub adapter for fitting GPS antenna on carriers with stub and poles with stub.

19.4 Height Hook



667 244	GZS4-1	Height hook with integrated tape measure. Supplied with additional tape graduated in feet and inches.
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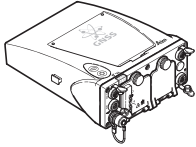
20 Containers for GS14 Receiver



795 992	GVP708	Hard container for GS08plus/GS12/GS14 SmartAntenna, CS10/CS15 Field Controller and accessories.
782 384	GVP656	Hard container for GS08plus/GS12/GS14 SmartAntenna, CS10/CS15 field controller and accessories for a SmartPole setup and SmartStation setup.
791 695	GVP659	Hard container for two GS08plus/GS12/GS14 SmartAntennas, CS10/CS15 field controller and accessories for a complete Base and Rover setup.

GS10 GNSS Receiver

21 GS10 GNSS Receiver



771 508	GS10	Leica GS10 Single Frequency receiver
771 510	GS10	Leica GS10 Performance receiver
771 511	GS10	Leica GS10 Professional receiver

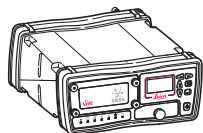
	Leica GS10 Single Frequency	Leica GS10 Performance	Leica GS10 Professional
Supported GNSS Systems			
GPS L2	○	●	●
GPS L5	○	○	●
GLONASS	○	○	●
Galileo	○	○	●
RTK performance			
DGPS	○	●	●
RTK unlimited	○	●	●
Network RTK	○	●	●
Leica Lite RTK	○	○	●
Position update & data recording			
5 Hz positioning	●	●	●
20 Hz positioning	○	●	●
Raw data logging	●	●	●
RINEX logging	○	○	●
NMEA out	○	○	●
Additional features			
RTK Reference Station functionality	○	●	●

● Standard

○ Optional

GS25 GNSS Receiver

22 GS25 GNSS Receiver



788 246	GS25	Leica GS25 Basic receiver
788 245	GS25	Leica GS25 Professional receiver

	Leica GS25 Basic	Leica GS25 Professional
Supported GNSS Systems		
GPS L2	●	●
GPS L5	○	●
GLONASS	○	●
Galileo	○	●
RTK performance		
DGPS	○	●
RTK unlimited	○	●
Network RTK	○	●
Leica Lite RTK	○	●
Position update & data recording		
5 Hz positioning	○	●
20 Hz positioning	○	●
Raw data logging	○	●
RINEX logging	○	●
NMEA out	○	●
Additional features		
RTK Reference Station functionality	○	●
Event & PPS Output ports	●	●

● Standard

○ Optional

23 Additional GS10/GS25 Receiver Options

GNSS software options		
771 500	LOP19	GPS L2 option, enables GPS L2 and GPS L2C tracking on a GS10, GS15 or GS25 receiver.
767 804	LOP1	GPS L5 option, enables GPS L5 tracking on a GS10, GS15 or GS25 receiver.
767 805	LOP2	GLONASS option, enables GLONASS tracking on a GS10, GS15 or GS25 receiver.
767 806	LOP3	Galileo option, enables Galileo tracking on GS10, GS15 or GS25 receiver.
Position rate and data recording options		
767 807	LOP4	5Hz option, enables to compute positions with an update rate up to 5Hz.
767 808	LOP5	20Hz option, enables to compute positions with an update rate up to 20Hz.
767 809	LOP6	Upgrade option from 5Hz to 20Hz. (LOP4 to LOP5)
767 810	LOP7	Raw data option, allows logging of GNSS raw data on GS10, GS15 or GS25 receiver or on a CS10/CS15 field controller.
767 811	LOP8	RINEX option, allows logging of RINEX data on GS10, GS15 or GS25 receiver.
767 818	LOP15	NMEA out option, enables NMEA to be streamed from GS10, GS15 or GS25 receivers.
RTK related options		
771 497	LOP16	DGPS option for GS10, GS15 or GS25 receivers, enables the receiver to compute a DGPS position.

767 813	LOP10	Unlimited RTK option, enables RTK positions to be computed from a single base station with no limit of distance.
767 815	LOP12	Unlimited RTK and Network RTK, enables RTK position to be computed from a single base station and within a RTK network.
767 817	LOP14	Upgrade option for GS10, GS15 or GS25 receivers from RTK unlimited only to RTK unlimited including RTK Network. (LOP10 to LOP12)
771 971	LOP20	Leica Lite option, to receive GS09 RTK data on the GS10, GS15 or GS25 receivers.
Other options		
767 816	LOP13	RTK Reference station option, allows a GS10, GS15 or GS25 receiver to transmit RTK data.

24 GNSS Antennas



Select the antenna for GS10/GS25 receiver.

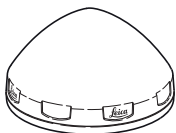
Choke ring antennas are only required for special applications such as when using a GS10/GS25 receiver as a permanent reference station receiver.

24.1 GNSS Single and Triple Frequency Antennas



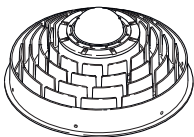
770 708	AS05	GPS/GLONASS single frequency antenna.
770 701	AS10	GPS/GLONASS/Galileo triple frequency antenna.

24.2 Field Base GNSS Antennas



773 758	AR10	GPS/GLONASS/Galileo triple frequency reference station antenna with integrated radome.
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24.3 Choke Ring Antennas



794 207	AR20	GNSS choke ring antenna for GPS/GLONASS/Galileo/BeiDou/QZSS receivers. Includes Galileo E6 and L-Band signals. Planar structure element.
794 208	GVP705	Weather protection radome for AR20 antenna.
765 733	AR25	GNSS choke ring antenna for GPS/GLONASS/Galileo/BeiDou receivers. Includes Galileo E6 and L-Band signals. Dorne-Margolin antenna element.
765 734	GVP653	Weather protection radome for AR25 antenna.

25 GNSS Antenna Cables for GS10/GS25 Receiver

25.1 GNSS Antenna Cables for GS10/GS25 using as Rover



667 200	GEV141	1.2m antenna cable.
667 201	GEV142	1.6m extension for antenna cable.
724 969	GEV194	1.8m antenna cable.

25.2 GNSS Antenna Cables for GS10/GS25 Base Setup



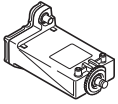
Short cables		
667 200	GEV141	1.2m antenna cable.
724 969	GEV194	1.8m antenna cable.
Medium cables		
636 959	GEV120	2.8m antenna cable.
632 372	GEV119	10m antenna cable.
Extra long cables		
632 390	GEV108	30m antenna cable.
664 813	GEV134	50m antenna cable.

25.3 Event Cable for GS25

789 061	GEV262	Event cable for GS25 with Lemo.
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26 RTK Modems

26.1 Satellite Radio Modems for GS10 Receiver



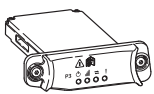
Satellite modems

767 859	GFU27	Satellite M3 TR1 403-470 MHz RX/TX radio in GFU housing. Transceiver UHF radio module. User manual and CE Declaration of Conformity included.
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Cables for Satellite modems

733 297	GEV171	1.8m Y-cable to program the Satellite radio modem inside the GFU27 housing.
639 968	GEV125	Cable for Satellite radios without GFU housing to be connected to GS10/GS15.

26.2 Satellite Radio Modems for GS25 Receiver



Satellite modems

788 725	SLR5-1	Satellite M3 TR1 403-470 MHz RX/TX radio for GS25. Transceiver UHF radio module. User manual and CE Declaration of Conformity included.
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Cables for Satellite modems

639 968	GEV125	Cable for Satellite radios without GFU housing to be connected to GS10/GS15/GS25.
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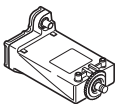
26.3 Satellite High Power Radios

789 636	HPR2	Satellite-EASY Pro 35W high power radio, 403-473 MHz RX/TX radio. Includes power cable for connecting to 12V battery and programming cable.
636 805	GEV114	Data cable to connect Satellite Easy Pro 35W high power radio to GS GNSS receiver.
806 097	GVP712	Container for Satel HPR2 High Power Radio.

26.4 Pacific Crest Radio Modems



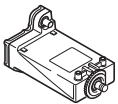
Pacific Crest radio modems must be ordered directly from your local Pacific Crest office or representative.



PDL receive only modems built into the Leica GFU radio housing with 12.5 or 25kHz channel spacing within the following frequency bands are available:

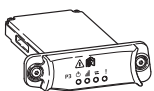
- 410 - 430 MHz
- 430 - 450 MHz
- 450 - 470 MHz

26.5 Mobile Phones for GS10



767 861	GFU29	GFU29, 5 band UMTS module for global use in GFU housing. Compatible with GSM, GPRS, EDGE, HSDPA networks.
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26.6 Mobile Phones for GS25



776 236	SLG1-2	SLG1-2, 5-Band (850/900/1800/1900/2100 MHz) Telit 3G GSM/GPRS/UMTS module. Provides full flexibility due to 5 -band technology, supports all GSM, GPRS, EDGE and UMTS network providers.
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27 RTK Antennas

27.1 External RTK Antennas



Gainflex radio antennas

639 964	GAT1	Gainflex radio antenna (frequency range 400-435 MHz).
667 243	GAT2	Gainflex radio antenna (frequency range 435-470 MHz).

Antennas for mobile phones

782 500	GAT18	Multiband GSM/UMTS Antenna for 850/1900 MHz, for 900/1800 MHz and for 2100 MHz mobile networks
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27.2 Accessories for Mounting RTK Antenna on the AS05/AS10 Antenna



Antenna cables

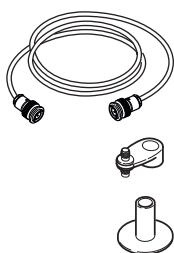
667 200	GEV141	1.2m antenna cable.
667 201	GEV142	1.6m extension for antenna cable.
724 969	GEV194	1.8m antenna cable.
636 959	GEV120	2.8m antenna cable.



RTK antenna arm

667 219	GAD33	15cm, attaches to GNSS antenna. Gainflex antenna fits on arm. Antenna cable connects to arm.
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27.3 Accessories for Mounting RTK Antenna on Second Tripod (Base)



RTK antenna cables

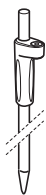
636 959	GEV120	2.8m antenna cable.
667 201	GEV142	1.6m extension for antenna cable.

Telescopic rod, antenna arm and base for telescopic rod

667 228	GAD32	Telescopic rod with 5/8" screw. Fits in base 667 236.
667 220	GAD34	Arm 3cm long, screws on telescopic rod. Gainflex antenna fits on arm. Antenna cable connects to arm.
667 236	GHT36	Base with 5/8" screw, for setting up telescopic rod on tripod.

28 Additional Accessories for GS10/GS25 Pole Setups - GNSS Rover

28.1 Survey Poles



Poles with 5/8" screw

768 226	GLS13	Telescopic aluminium GNSS pole with 5/8" screw. Snap locks at 1.80m and 2.00m. Includes circular bubble.
752 292	GLS30	Telescopic carbon GNSS pole with 5/8" screw. Snap locks at 1.80m and 2.00m. Includes circular bubble.

Poles with stub

 Requires GAD31 screw to stub adapter for AS10 antenna to be mounted on these poles.

754 391	GLS12	Telescopic aluminium Total Station reflector pole with stub. Snap locks at 2.00m for GNSS antennas.
766 359	GLS31	Telescopic carbon Total Station reflector pole with stub. Snap locks at 2.00m for GNSS antennas.
667 217	GAD31	Screw to stub adapter.

28.2 Minipack Setup



Backpack

770 707	GVP647	Minipack, holds GS10 GNSS Receiver.
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Holders

767 879	GHT62	Pole holder base plate for CS10 and CS15 field controller.
767 880	GHT63	Clamp arrangement for attaching the GHT62 to all poles (except mini reflector poles).

Antenna cables

667 200	GEV141	1.2m antenna cable.
667 201	GEV142	1.6m extension antenna cable.
636 959	GEV120	2.8m antenna cable.

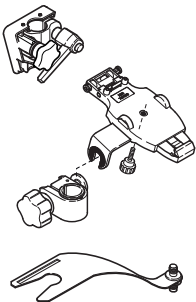
Telescopic rod and RTK antenna arm

667 228	GAD32	Telescopic rod with 5/8" screw. Fits in Minipack 667 137. Fits in base 667 236.
667 220	GAD34	Arm 3cm long, screws on telescopic rod. Gainflex antenna fits on arm. Antenna cable connects to arm.
734 388	GAD46	Double arm adapter, screws on telescopic rod. Allows to connect up to 2 mobile phone/radio antennas and up to 2 antenna cables on arm.

28.3 All on the Pole Setup



Only possible when using GLS12/GLS13 poles.



Holders

733 265	GHT40	Holder for all variants of GS10 for balanced all-on-the-pole setup.
767 879	GHT62	Pole holder base plate for CS10 and CS15 field controller.
767 880	GHT63	Clamp arrangement for attaching the GHT62 to all poles (except mini reflector poles).

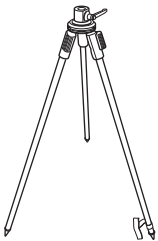
Antenna cable for GNSS antenna and RTK antenna

724 969	GEV194	1.8m antenna cable.
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RTK antenna arm

667 219	GAD33	15cm, attaches to GNSS antenna. Gainflex antenna fits on arm. Antenna cable connects to arm.
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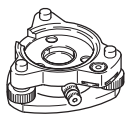
28.4 QuickStand



560 138	GST6	Quickstand with 3 telescopic legs, for aluminium poles.
667 319	GSR111	Dual-strut support, for all GLS poles.

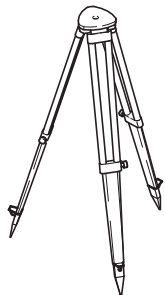
29 Additional Accessories for GS10/GS25 Tripod Setups - GNSS Base

29.1 Tribrachs



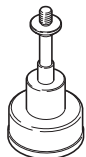
777 508	GDF321	Tribrach, without optical plummet.
777 509	GDF322	Tribrach, with optical plummet.
798 181	GDF112-1	Tribrach, with optical plummet.

29.2 Tripods



667 301	GST120-9	Tripod, telescopic, selfclosing, with accessories, without pouch.
399 244	GST05	Wooden tripod with polymer coating, with accessories.
563 630	GST05L	Aluminium tripod, telescopic, with accessories.

29.3 Carriers



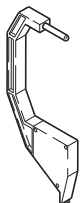
Carriers with 5/8" screw

667 216	GRT146	Carrier with 5/8" screw, GNSS antenna screws on directly.
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Carriers with stub

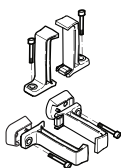
667 313	GRT144	Carrier with stub, pale green.
667 217	GAD31	Screw-to-stub adapter for fitting GPS antenna on carriers with stub and poles with stub.

29.4 Height Hook



667 244	GZS4-1	Height hook with integrated tape measure. Supplied with additional tape graduated in feet and inches.
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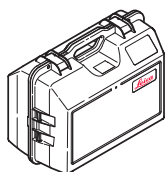
30 Mounting Kits for GS25



Mounting kits for GS25 receiver

774 439	GEV249	Rack Mount Kit for GS25 receiver. For fitting the receiver to standard IT rack (requires 2 U in the rack).
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31 Container for GS10/GS25 Receiver



 All GS10/GS25 need to be ordered with at least one container.

770 706	GVP646	Hard container for GS10 receiver, antenna and CS15/CS10 field controller. The container allows a GS10 receiver, and all accessories for a base station to be transported.
790 636	GVP704	Hard container for GS25 GNSS receiver. This container allows a GS25 receiver, CS15/CS10 and all accessories for a base station to be transported.

GS12 GNSS Receiver

32 GS12 GNSS SmartAntenna



782 288	GS12	GS12 GNSS SmartAntenna, Geodetic 120 channels GNSS receiver, includes: GPS L1+L2, 1 Hz position rate, easily upgradeable with CS/GS12 options (e.g. Glonass, Gallileo, GPS L5, Network Licence, Raw data logging).
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33 Additional GS12 Receiver Software Options



GS12 related receiver options are license keys to be set on CS field controller.

GNSS Software options

782 278	GSW949	CS/GS12 GLONASS option.
782 279	GSW950	CS/GS12 GPS L5 option.
782 280	GSW951	CS/GS12 Galileo option.

Position update and data recording options

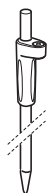
782 281	GSW952	CS/GS12 20Hz option, enables 0.05sec (20Hz) position update rate.
782 282	GSW953	CS/GS12 MDB raw data logging option.
782 283	GSW954	CS/GS12 RINEX raw data logging option.

RTK related options

782 284	GSW955	CS/GS12 RTK Rover option, includes unlimited baseline and reference network access.
782 285	GSW956	CS/GS12 Leica Lite RTK option, enables GS12 to receive Leica Lite RTK messages.

34 Additional Accessories for a GS12 GNSS Rover

34.1 Survey Poles



Poles with 5/8" screw

768 226	GLS13	Telescopic aluminium GNSS pole with 5/8" screw. Snap locks at 1.80m and 2.00m. Includes circular bubble.
752 292	GLS30	Telescopic carbon GNSS pole with 5/8" screw. Snap locks at 1.80m and 2.00m. Includes circular bubble.

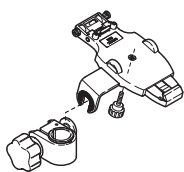
Poles with stub



Requires GAD31 screw to stub adapter for GS12 receiver to be mounted on these poles.

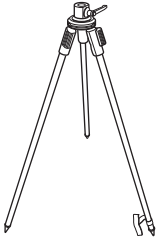
754 391	GLS12	Telescopic aluminium Total Station reflector pole with stub. Snap locks at 2.00m for GNSS antennas.
766 359	GLS31	Telescopic carbon Total Station reflector pole with stub. Snap locks at 2.00m for GNSS antennas.
667 217	GAD31	Screw to stub adapter.

34.2 Holder and Clamp for Poles



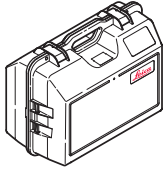
767 879	GHT62	Pole holder base plate for CS10 and CS15 field controller.
767 880	GHT63	Clamp arrangement for attaching the GHT62 to all poles.

34.3 QuickStand



560 138	GST6	Quickstand with 3 telescopic legs, for aluminium poles.
667 319	GSR111	Dual-strut support, for all GLS poles.

34.4 Container for GS12 Receiver



782 384	GVP656	Hard container for GS08plus/GS12/GS14 SmartAntenna, CS10/CS15 field controller and accessories for a SmartPole setup and SmartStation setup.
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34.5 Additional Accessories using the GS12 Receiver in a SmartPole Setup



Please refer to the Leica Viva TPS TS11/TS15 and Leica Nova TPS MS50, TS50 and TM50 Equipment lists for additional accessories using the GS12 receiver in a SmartPole setup.

34.6 Additional Accessories using the GS12 Receiver in a SmartStation Setup



Please refer to the Leica Viva TPS TS11/TS15 and Leica Nova TPS MS50, TS50 and TM50 Equipment lists for additional accessories using the GS12 receiver in a SmartStation setup.

GS08plus GNSS Receiver

35 GS08plus GNSS Receiver



798 257	GS08plus	GS08plus GPS/GLONASS Dual Frequency SmartAntenna for the CS10 Field Controller.
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36 Additional GS08plus Receiver Software Options

GNSS Software options

791 827	LOP27	GS08plus GLONASS option.
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 GS08plus related receiver options are license keys to be set on CS10 field controller.

Position update and data recording options

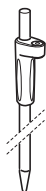
782 271	GSW943	CS10/GS08plus 5Hz option, enables 0.2sec (5Hz) position update rate.
782 272	GSW944	CS10/GS08plus MDB raw data logging option.
782 273	GSW945	CS10/GS08plus RINEX raw data logging option.

RTK related options

782 274	GSW946	CS10/GS08plus RTK Rover option, includes unlimited baseline and reference network access.
782 275	GSW947	CS10/GS08plus Leica Lite RTK option, enables GS08plus to receive Leica Lite RTK messages.
792 349	GSW1067	CS10/GS08plus RTK Base option, allows a GS08plus to transmit RTK data.

37 Additional Accessories for GS08plus Pole Setups - GNSS Receiver

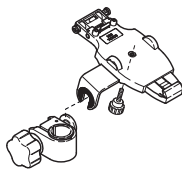
37.1 Survey Poles



Poles with 5/8" screw

768 226	GLS13	Telescopic aluminium GNSS pole with 5/8" screw. Snap locks at 1.80m and 2.00m. Includes circular bubble.
752 292	GLS30	Telescopic carbon GNSS pole with 5/8" screw. Snap locks at 1.80m and 2.00m. Includes circular bubble.

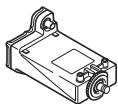
37.2 Holder and Clamp for Poles



767 879	GHT62	Pole holder base plate for CS10 and CS15 field controller.
767 880	GHT63	Clamp arrangement for attaching the GHT62 to all poles.

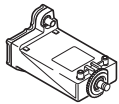
38 Additional Accessories for GS08plus Tripod Setups - GNSS Base

38.1 RTK Radio modules



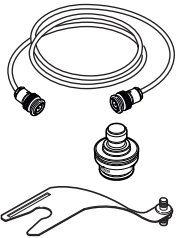
767 859	GFU27	Satellite M3 TR1 403-470 MHz RX/TX radio in GFU housing. Transceiver UHF radio module. User manual and CE Declaration of Conformity included.
639 964	GAT1	Gainflex radio antenna (frequency range 400-435 MHz).
667 243	GAT2	Gainflex radio antenna (frequency range 435-470 MHz).

38.2 RTK Mobile phone modules



767 861	GFU29	GFU29, 5 band UMTS module for global use in GFU housing. Compatible with GSM, GPRS, EDGE, HSDPA networks.
782 500	GAT18	Multiband GSM/UMTS Antenna for 850/1900 MHz, for 900/1800 MHz and for 2100 MHz mobile networks.

38.3 RTK Accessories



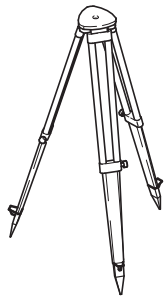
748 418	GEV205	Y-Cable for RTK Reference setup. Connects a GS08plus/GS12 with a GEB171 battery and a radio in a Leica GFU housing.
727 367	GEB171	External universal battery, NiMH, 12V/9Ah, rechargeable.
748 417	GHT58	Bracket to mount a radio built into the Leica GFU radio housing on a tripod.
791 829	GAD113	Adapter for fitting the GAD33 antenna arm to the GS08plus.
772 002	GEV238	1,2m external antenna cable connects CGR radio to GAD33 antenna arm.
667 219	GAD33	15cm, attaches to GNSS antenna. Gainflex antenna fits on arm. Antenna cable connects to arm.

38.4 Tribrachs



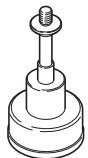
748 888	GDF111-1	Tribrach, without optical plummet.
798 181	GDF112-1	Tribrach, with optical plummet.

38.5 Tripods



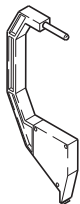
399 244	GST05	Wooden tripod with polymer coating, with accessories.
563 630	GST05L	Aluminium tripod, telescopic, with accessories.

38.6 Carriers



667 216	GRT146	Carrier with 5/8" screw, GNSS antenna screws on directly.
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38.7 Height Hook



667 244	GZS4-1	Height hook with integrated tape measure. Supplied with additional tape graduated in feet and inches.
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39 Container for GS08plus



791 697	GVP661	Hard container for GS08plus SmartAntenna, CS10 Field Controller and accessories.
791 695	GVP659	Hard container for two GS08plus/GS14 SmartAntennas, CS10/15 field controller and accessories for a complete Base and Rover setup.

Additional Accessories for GS Receivers

40 Power Supply

40.1 Internal Batteries for GS14, GS15, GS12 and GS08plus Receiver



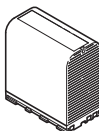
772 806	GEB212	Lithium-Ion battery, 7.4V/2.6Ah, rechargeable. To be used with CS10/CS15 field controller and GS14, GS15, GS12 or GS08plus receiver.
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40.2 Internal Batteries for GS10 Receiver



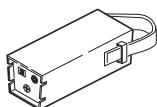
733 270	GEB221	Lithium-Ion battery, 7.4V/4.4Ah, rechargeable. To be used with GS10 receiver.
793 973	GEB222	Lithium-Ion battery, 7.4V/6Ah, rechargeable. To be used with GS10 receiver.

40.3 Internal Batteries for GS25 Receiver



793 975	GEB242	Lithium-Ion battery, 14.8V/5.8Ah, rechargeable, for GS25 receiver.
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40.4 External Power Supply



Battery for GS10/GS15

727 367	GEB171	External universal battery, NiMH, 12V/9Ah, rechargeable.
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Power cables for GS10/GS15

758 469	GEV219	Power cable, 1.8m, connects GS10/GS15 receiver to external GEB171 battery.
439 038	GEV71	4m car battery cable, connects all battery cables to 12V car battery.

Power cables for GS10

560 130	GEV97	Power cable, 1.8m, connects GS10 receiver to external GEB171 battery.
733 298	GEV172	Power cable, 2.8m, connects GS10 receiver to 2 external GEB171 batteries.

Power cables for GS12 and GS08plus

748 418	GEV205	Y-Cable for RTK Reference setup. Connects a GS08plus/GS12 with a GEB171 battery and a radio in a Leica GFU housing.
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40.5 Battery Chargers



733 271	GKL221	Charger, to be used with up to two charging adapters GDI221 or GDI222, charger cable and net adapter included.
733 323	GDI221	Adapter for GKL221 for charging 2 Li-Ion batteries GEB242, GEB221, GEB222, GEB211 or GEB212.
734 389	GDC221	Car adapter for the GKL221 charger. Allows the use of the GKL221 with a cigarette lighter; 12V/24V DC/DC converter. Can also be used to power CS10/CS15 field controller directly from a cigarette lighter.
734 752	GKL211	Charger, for Li-Ion batteries GEB221, GEB222, GEB211 and GEB212, car adapter cable and net adapter included.
785 703	GKL32	Charger, for charging external battery GEB171.

41 Data Storage and Data Transfer

41.1 Memory Devices for GS10, GS15 and GS25 Receiver



767 856	MSD1000	SD memory card 1GB for GS10 and GS15 receiver and CS10 and CS15 field controller.
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41.2 Memory Devices for GS14 Receiver

795 993	MMSD01	microSD card 1GB for GS14 receiver, includes SD card adapter.
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41.3 Card Reader



767 895	MCR7	Card reader for SD/CF cards.
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41.4 Data Transfer Cables



Serial cables		
733 280	GEV160	Serial data transfer cable, 2.8m, connects GS10/GS15 receiver (port 2) to PC. (Lemo to 9pin RS232)
733 282	GEV162	Serial data transfer cable, 2.8m, connects GS10/GS15 receiver (port 1) or CS10/CS15 controller to PC. (Lemo to 9pin RS232)
806 094	GEV268	Serial data transfer cable, converter cable USB to serial (Lemo to USB connector), 2.0m, connects GS10/GS15 receiver (port 2) to PC. PC driver included on CD.
806 095	GEV269	Serial data transfer cable, converter cable USB to serial (Lemo to USB connector), 2.0m, connects GS10/GS14/GS15 receiver (port 1) or CS10/CS15 controller to PC. PC driver included on CD.



USB cable		
767 899	GEV234	USB cable, 1.65m, connects GS08plus/GS10/GS12/GS14/GS15 receiver or CS10/CS15 controller to USB port of a PC or connects GS08plus/GS10/GS12/GS15 receiver to CS10/CS15 controller. (Lemo to USB)

42 Cables to connect GS08plus/GS10/GS12/GS14/GS15/GS25 to CS Controller



In cases where high data speed communication is required between GS08plus/GS10/GS12/GS14/GS15 and CS controller, cables should be used instead of a Bluetooth connection.



USB cables		
767 899	GEV234	USB cable, 1.65m, connects GS08plus/GS10/GS12/GS14/GS15 receiver or CS10/CS15 controller to USB port of a PC or connects GS08plus/GS10/GS12/GS15 receiver to CS10/CS15 controller. (Lemo to USB)
772 807	GEV237	USB cable, 1.65m, connects GS08plus/GS10/GS12/GS14/GS15 receiver to CS10/CS15 controller. (Lemo to Lemo)

43 Radio Accessories

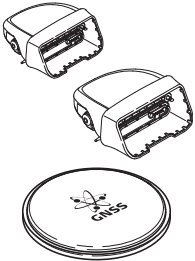
806 098	GST74	Antenna mast including tripod, extendable up to 5m.
806 096	GVP711	Soft bag for car battery, including 2 cables with SAE adapter.
806 101	GAD117	Adapter antenna to mast, required for GAT23/GAT24 UHF antenna, includes 5m antenna cable with TNC connector.
806 099	GAT23	UHF radio antenna (frequency range 430-450 Mhz, 5.5dBi gain).
806 100	GAT24	UHF radio antenna (frequency range 450-470 Mhz, 5.5dBi gain).

Viva Uno GNSS Receiver



Refer to "49 CS10/CS15 Field Controller" for details about the CS10/CS15 field controllers.

44 GNSS Antennas for Viva Uno



Viva Uno GNSS receiver

773 483	GS05	GS05 - GNSS cap, 14 channel, single frequency GPS and Glonass (optional) and SBAS tracking receiver that fits as a cap on the CS10.
773 484	GS06	GS06 - GNSS cap, 14 channel, single frequency GPS and Glonass (optional) and SBAS tracking receiver that fits as a cap on the CS15.

External GNSS Antenna for Viva Uno GNSS Receiver

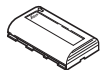
770 708	AS05	GPS/GLONASS single frequency antenna.
772 002	GEV238	1.2m external antenna cable. Connects GS05 or GS06 to the external antenna AS05.

GLONASS Option

770 713	LOP50	GLONASS option for GS05 and GS06, enables the GNSS cap GS06 or GS05 to receive GLONASS signals.
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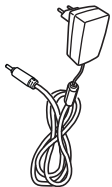
45 Accessories for Viva Uno

45.1 Internal Battery



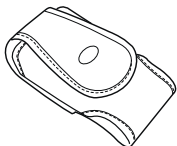
772 806	GEB212	Lithium-Ion battery, 7.4V/2.6Ah, rechargeable. To be used with CS10/CS15 field controller and GS14, GS15, GS12 or GS08plus receiver.
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45.2 Additional Power Accessories



767 900	GEV235	1.5m power cable. Allows CS10/CS15 controller to be externally powered via the power jack. Usable in the EU.
773 753	GEV235-1	1.5m power cable. Allows CS10/CS15 controller to be externally powered via the power jack. Usable in the US.
773 754	GEV235-2	1.5m power cable. Allows CS10/CS15 controller to be externally powered via the power jack. Usable in Japan.
773 755	GEV235-3	1.5m power cable. Allows CS10/CS15 controller to be externally powered via the power jack. Usable in the UK.
773 756	GEV235-4	1.5m power cable. Allows CS10/CS15 controller to be externally powered via the power jack. Usable in Australia.
734 389	GDC221	Car adapter for the GKL221 charger. Allows the use of the GKL221 with a cigarette lighter; 12V/24V DC/DC converter. Can also be used to power CS10/CS15 field controller directly from a cigarette lighter.

45.3 Softbags and Hand Strap for Viva Uno



Soft bags

767 904	GVP643	Soft bag for CS10 field controller for transportation and protection against dirt. Including belt loop.
767 905	GVP644	Soft bag for CS15 field controller for transportation and protection against dirt. Including belt loop.

Hand strap

767 877	GHT61	Hand strap for CS10/CS15 field controller with utility hook for attaching to belt or tripod.
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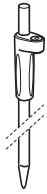
45.4 Data Transfer Cables



764 700	GEV223	Data transfer cable USB A to USB mini.
767 899	GEV234	USB cable, 1.65m, connects GS10/GS15 receiver or CS10/CS15 controller to USB port of a PC or connects GS10/GS15 receiver to CS10/CS15 controller. (Lemo to USB)

46 Additional Accessories for Viva Uno Pole Setups - GNSS Rover

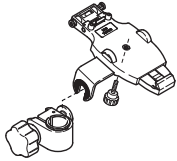
46.1 Survey Poles



Poles with 5/8" screw

768 226	GLS13	Telescopic aluminium GNSS pole with 5/8" screw. Snap locks at 1.80m and 2.00m. Includes circular bubble.
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46.2 All on the Pole Setup

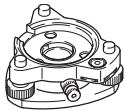


Holders

767 879	GHT62	Pole holder base plate for CS10 and CS15 field controller.
767 880	GHT63	Clamp arrangement for attaching the GHT62 to all poles (except mini reflector poles).

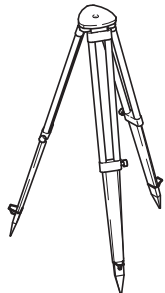
47 Additional Accessories for Viva Uno Tripod Setups - GNSS Base

47.1 Tribrachs



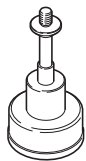
726 839	GDF101	Tribrach, without optical plummet, black.
726 840	GDF102	Tribrach with optical plummet, Leica system, black.

47.2 Tripods



726 833	GST103	Aluminium tripod with shoulder strap and side clamp.
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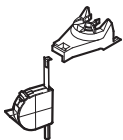
47.3 Carriers



Carriers with 5/8" screw

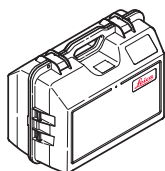
667 216	GRT146	Carrier with 5/8 inch screw, GNSS antenna screws on directly.
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47.4 Instrument Height Meter



667 718	GHM007	Instrument height meter.
722 045	GHT196	Distance holder for height meter.

48 Container for Viva Uno GNSS Receiver



770 709	GVP654	Hard container for Viva Uno GNSS receiver and antenna. The container allows to transport complete GNSS Rover and Base Setup including accessories.
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Field Controller

49 CS10/CS15 Field Controller

49.1 CS10 Field Controller



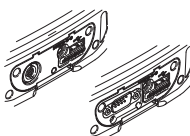
810 854	CS10 3.5G Field Controller	CS10 3.5G Field Controller. Ruggedized WinCE field controller with full VGA touch display, 1GB NAND Flash memory, 512MB SDRAM, CF/SD card slot and 2MP camera. Includes Bluetooth, internal WLAN module, 3.5G GSM/UMTS module, numeric keypad, stylus. Available with either Lemo connector (CBC01) or DSUB connector module (CBC02).
810 857	CS10 Radio Field Controller	CS10 Radio Field Controller. Ruggedized WinCE field controller with full VGA touch display, 1GB NAND flash memory, 512MB SDRAM, CF/SD card slot and 2MP camera. Includes Bluetooth, internal WLAN module, internal TPS radio module, numeric keypad, stylus. Available with either Lemo connector (CBC01) or DSUB connector module (CBC02).
810 853	CS10 Field Controller	CS10 Field Controller. Ruggedized WinCE field controller with full VGA touch display, 1GB NAND flash memory, 512MB SDRAM, CF/SD card slot and 2MP camera. Includes Bluetooth, numeric keypad, stylus. Available with either Lemo connector (CBC01) or DSUB connector module (CBC02).

49.2 CS15 Field Controller



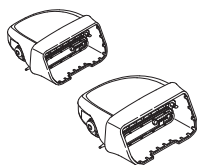
810 856	CS15 3.5G Field Controller	CS15 3.5G Field Controller. Ruggedized WinCE field controller with full VGA touch display, 1GB NAND Flash Memory, 512MB SDRAM, CF/SD card slot and 2MP camera. Includes Bluetooth, internal WLAN module, 3.5G GSM/UMTS module, QWERTY keypad, stylus. Available with either Lemo connector (CBC01) or DSUB connector module (CBC02).
810 855	CS15 Field Controller	CS15 Field Controller. Ruggedized WinCE field controller with full VGA touch display, 1GB NAND flash memory, 512MB SDRAM, CF/SD card slot and 2MP camera. Includes Bluetooth, QWERTY keypad, stylus. Available with either Lemo connector (CBC01) or DSUB connector module (CBC02).

50 Connector Modules for CS10/CS15 Field Controller



767 874	CBC01	Lemo connector module with power jack, Lemo (USB and Serial) and USB A host for CS10 and CS15 field controller.  Can only be ordered with CS10/CS15 field controller.
767 875	CBC02	DSUB connector module with power jack, DSUB 9-pin, USB A host and USB mini AB for CS10 and CS15 field controller.  Can only be ordered with CS10/CS15 field controller.

51 RTK Modems for CS10/CS15 Field Controllers



789 634	CGR10	403-470 MHz RXO radio for CS10 controllers. RTK receive only UHF radio to be easy attached to any CS10 controller.
789 635	CGR15	403-470 MHz RXO radio for CS15 controllers. RTK receive only UHF radio to be easy attached to any CS15 controller.

52 RTK Antennas for CGR10/CGR15

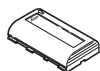
790 585	GAT21	GAT21, Radio Antenna for CGR radio, frequency range 400-470 MHz.
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53 Accessories for Field Controller

53.1 Miscellaneous Accessory

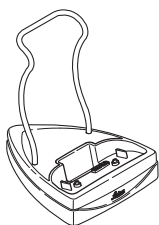
781 521	GDZ69	Extra pen with screw driver for CS10 and CS15 field controller.
767 907	SPF01	Anti-glare display foils for CS10 and CS15 field controller.

53.2 Internal Batteries



772 806	GEB212	Lithium-Ion battery, 7.4V/2.6Ah, rechargeable. To be used with CS10/CS15 field controller or GS15 receiver.
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53.3 Docking Station



767 906	CCS01	Docking station for CS10 and CS15 field controller for charging and data transfer to PC, includes: GEV223 (USB A to USB mini data transfer cable).
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53.4 Additional Power Accessories

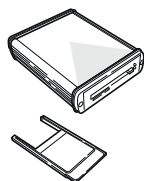
767 900	GEV235	1.5m power cable. Allows CS10/CS15 controller to be externally powered via the power jack. Usable in the EU.
773 753	GEV235-1	1.5m power cable. Allows CS10/CS15 controller to be externally powered via the power jack. Usable in the US.
773 754	GEV235-2	1.5m power cable. Allows CS10/CS15 controller to be externally powered via the power jack. Usable in Japan.
773 755	GEV235-3	1.5m power cable. Allows CS10/CS15 controller to be externally powered via the power jack. Usable in the UK.
773 756	GEV235-4	1.5m power cable. Allows CS10/CS15 controller to be externally powered via the power jack. Usable in Australia.
734 389	GDC221	Car adapter for the GKL221 charger. Allows the use of the GKL221 with a cigarette lighter; 12V/24V DC/DC converter. Can also be used to power CS10/CS15 field controller directly from a cigarette lighter.

53.5 Memory Devices



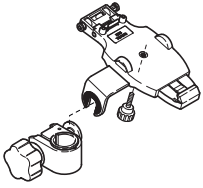
767 856	MSD1000	SD memory card 1GB for GS10/GS15 receiver and CS10/CS15 field controller.
789 139	MSD08	SD memory card 8GB for GS10/GS15 receiver and CS10/CS15 field controller.
733 257	MCF256	CompactFlash card 256MB for TPS instruments and CS10/CS15 field controller.
745 995	MCF1000	CompactFlash card 1GB for TPS instruments and CS10/CS15 field controller.
765 199	MS1	USB memory stick, 1GB, industrial grade.

53.6 Card Reader & Adapter



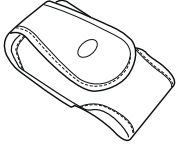
767 895	MCR7	Card reader for SD/CF cards.
733 258	MCFAD1	CompactFlash PC card adapter.

53.7 Pole Accessories for CS10/CS15 Field Controller



767 879	GHT62	Pole holder base plate for CS10 and CS15 field controller.
767 880	GHT63	Clamp arrangement for attaching the GHT62 to all poles.

53.8 Softbags and Hand Strap for CS10/CS15 Field Controller



Soft bags		
767 904	GVP643	Soft bag for CS10 field controller for transportation and protection against dirt. Including belt loop.
767 905	GVP644	Soft bag for CS15 field controller for transportation and protection against dirt. Including belt loop.
Hand strap		
767 877	GHT61	Hand strap for CS10 and CS15 field controller with utility hook for attaching to belt or tripod.

SmartWorx Viva

54 SmartWorx Viva Software and Application Programs

54.1 SmartWorx Viva Software for CS10/CS15 Field Controller

807 728	Leica Nova & Leica Viva Documentation USB card.
767 910	CS SmartWorx Viva LT licence key.
767 909	CS SmartWorx Viva licence key.
767 911	CS SmartWorx Viva LT to CS SmartWorx Viva upgrade option.
788 859	SmartWorx Viva CS LT Extended Settings.
788 860	SmartWorx Viva CS LT Extended Apps.

54.2 SmartWorx Viva Software for Zeno 10/Zeno 15 GIS Handhelds



This allows to run SmartWorx Viva on a Zeno 10/Zeno 15 field controller. In order to load SmartWorx Viva to a Zeno 10/Zeno 15 GIS Handheld it is needed to first load a CCP maintenance key. SmartWorx Viva cannot be loaded on a Zeno 5 GIS Handheld.

772 809	CS SmartWorx Viva LT licence key for Zeno 10/Zeno 15 GIS Handheld.
772 808	CS SmartWorx Viva licence key for Zeno 10/Zeno 15 GIS Handheld.

54.3 Applications Included with SmartWorx Viva

	CS Smart-Worx Viva	CS Smart-Worx Viva LT
Survey includes: - Survey - Code Points - Auto points recording - Hidden Points	● ● ● ●	● ● ○ -
RTK Base Setup includes: - Over known point - Over last setup - Over any point Requires RTK Reference option 767 816 LOP13 on GS10, GS14 or GS15.	● ● ●	● ● ●
Stakeout includes: - Navigate to point using various methods: North, sun, point and line - Quality control - checking of coordinate differences before storing - Automatic selection of next closest point to stake - Graphical selection of point from map - Edit heights and offset heights of points - Acoustic "reversing beep" when getting closer to point	● ● ● ● ● ●	○ - - ● - -
COGO includes: - Inverse - Traverse - Intersections - Line calculations - Arc calculations - Angle and curve calculator - Shift, Rotate & Scale (manual) - Shift, Rotate & Scale (match Points)	● ● ● ● ● ● ● ●	● ● ● ● ● - ● ●
Determine coordinate system: 1 step, 2 step, 3D Transformation - All common projections	● ●	● ●

		CS Smart- Worx Viva	CS Smart- Worx Viva LT
	Alignment Tool Kit:		
	• Horizontal alignments	●	●
	• Vertical alignments	●	●
	• Cross sections	●	●
	• Chainage equations	●	●
	Data import: ASCII, DXF, DTM	●	●
	Data export: Simple ASCII, Custom ASCII, DXF, LandXML, FBK, RW5, RAW, RWD	●	●
	● All options and functionality available ○ Limited options and functionality - Not available		

54.4 Additional SmartWorx Viva Software Packages for CS Field Controller

		CS Smart- Worx Viva	CS Smart- Worx Viva LT
767 913	CS Worksite+ includes:		
	• CS DTM Stakeout application (767 919)	●	●
	• CS Reference Line application (767 915)	●	○
	• CS Survey Surface & Volumes application (767 920)	●	●
	● All options and functionality available ○ Limited options and functionality - Not available		

54.5 Optional SmartWorx Viva Applications for CS Field Controller

		CS Smart- Worx Viva	CS Smart- Worx Viva LT
767 917	CS COGO Area Division  Requires COGO application.	●	●
767 919	CS DTM Stakeout  Requires Stakeout application.	●	●
767 915	CS Reference Line  Requires Stakeout application.	●	○
767 916	CS Reference Plane and Grid Scanning	●	-
767 921	CS RoadRunner	●	○
767 923	CS RoadRunner Rail	●	-
777 645	CS RoadRunner Importer	●	●
767 918	CS Survey Cross Section	●	-
767 920	CS Surface and Volumes	●	●
807 770	CS QuickVolume	●	●
779 472	DGPS option for Leica Viva Uno	●	●
	● All options and functionality available ○ Limited options and functionality - Not available		

54.6 SmartWorx Viva PC Software

773 894	SmartWorx Viva PC Software. Licence Key to run the SmartWorx Viva software on a PC.
---------	---

Care Packages

55 Customer Care Packages



A wide selection of comprehensive Customer Care Packages (CCPs) is available bundling Hardware Maintenance, Software Maintenance, Customer Support and Extended Warranty.

For more information about the CCP offering in your country please contact your local Leica Geosystems organization or distribution partner.

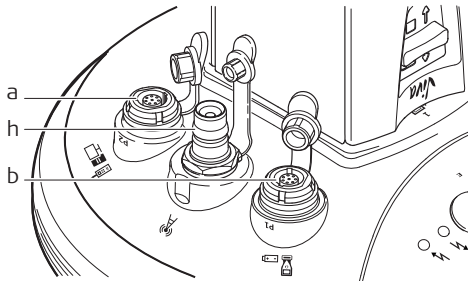
Trademarks

56 Trademarks

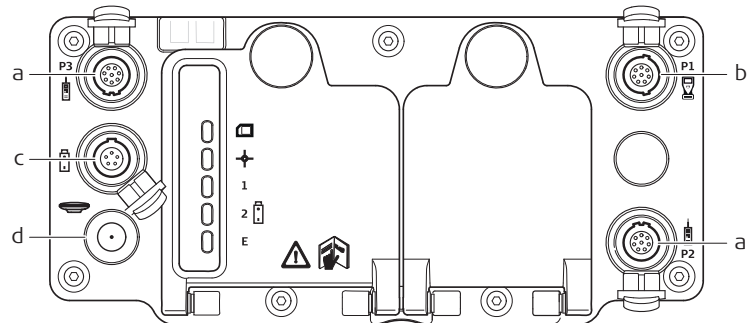
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System Viva GNSS Cables Overview

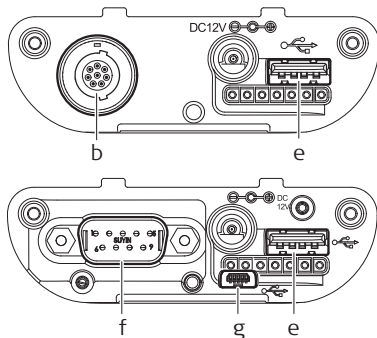
GS15 receiver



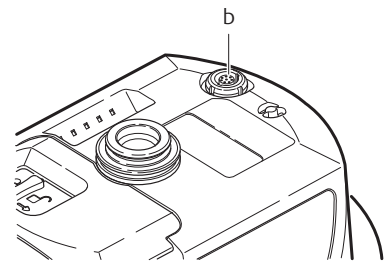
GS10 receiver



CS10/CS15 controller

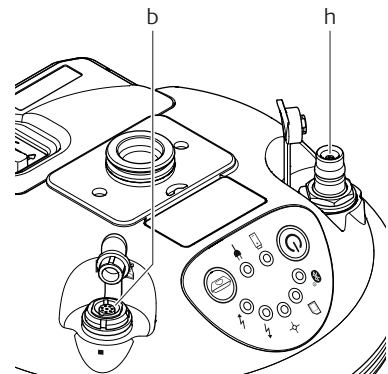


GS08plus/GS12 SmartAntenna



- a) Lemo1, 8pin, 30°
- b) Lemo1, 8pin, 135°
- c) Lemo1, 5pin, 30°
- d) TNC connector
- e) USB type A
- f) RS232 serial, 9pin
- g) Mini USB AB
- h) QN connector

GS14 receiver



Power cables

Art. no	Name	Connector 1	Connector 2	Description
560 130	GEV97	Lemo1, 5pin, 30°	Lemo1, 5pin, 30°	Length 1.8 m Allows GS10 (power port) to be externally powered.
758 469	GEV219	Lemo1, 8pin, 135°	Lemo1, 5pin, 30°	Length 1.8 m 1. Allows CS10/CS15 (with Lemo CBC01 connector module) to be externally powered via the Lemo port. 2. Allows GS10/GS14/GS15 (port 1) to be externally powered.
767 900	GEV235	Wall adapter	3mm barrel connector	Length 1.5 m Allows CS10/CS15 (with either connector modules) to be externally powered via the power jack. AC/DC wall adapter type is country specific.
439 038	GEV71	Crocodile clips	Lemo1, 5pin, 30° (female)	Length 4.0 m Allows powering of any device from car battery.

Y - power cables

Art. no	Name	Connector 1	Connector 2	Connector 3	Description
733 298	GEV172	Lemo1, 5pin	Lemo1, 5pin, 30°	Lemo1, 5pin, 30°	Length 2.8 m Allows GS10 (power port) to be externally powered by 2 external batteries.
756 365	GEV215	Lemo1, 8pin, 135°	Lemo1, 8pin, 135°	Lemo1, 5pin, 30°	Length 2.0 m Allows connection between CS10/CS15 (with Lemo CBC01 connector module) and GS10/GS14/GS15 (port 1) while being powered from the GEB171.
748 418	GEV205	Lemo1, 8pin, 135°	Lemo1, 8pin, 135° (female)	Lemo1, 5pin	Length 1.8 m Allows connection between GS08plus/GS12 or GS10/GS15 (port 1), external radio in GFU housing and GEB171 with GS and radio being externally powered.
796 492	GEV264	Lemo1, 8pin, 135°	Lemo1, 8pin, 135° (female)	Lemo1, 5pin	Length 1.8 m Allows connection between GS14, external radio in GFU housing and GEB171 with GS and radio being externally powered.

Radio programming cables

Art. no	Name	Connector 1	Connector 2	Connector 3/4	Description
767 803	GEV231	15pin (GS15 slot-in port) (female)	RS232 serial, 9pin	Lemo1, 5pin	Length 1.8 m Allows an SLR radio device to be externally powered and programmed by a PC.
733 297	GEV171	Lemo1, 8pin, 30° (female)	RS232 serial, 9pin	Lemo1, 5pin	Length 1.8 m Allows a radio within a GFU device to be externally powered and programmed by a PC.
793 364	GEV261	Lemo1, 8pin, 135°	RS232 serial, 9pin	Lemo1, 5pin and USB type A	Length 1.8 m Allows a GS14 radio to be programmed by a PC.

Radio cables

Art. no	Name	Connector 1	Connector 2	Connector 3	Description
767 897	GEV232	Lemo1, 8pin, 30°	Lemo1, 8pin, 30° (female)		Length 2.8 m Allows GFU devices to be connected to a GS10 (port 2 and 3), or GS15 (port 2).
767 898	GEV233	Lemo1, 8pin, 30°	Lemo1, 8pin, 30° (female)		Length 0.8 m Allows GFU devices to be connected to a GS10 (port 2 and 3), or GS15 (port 2).
639 968	GEV125	Lemo1, 8pin, 30°	15pin, RS232 serial		Length 1.8 m Allows a Sateline modem (not inside housing) to be connected to a GS10 (port 2 and 3), or GS15 (port 2).
636 805	GEV114	Lemo1, 8pin, 30°	Lemo2, 8pin, 30°		Length 1.8 m Data cable to connect Sateline Easy Pro (35W) high power radio to GS10/GS15 GNSS receiver.
799 776	GEV266	Lemo1, 8pin, 135°	Lemo2, 8pin, 30°		Length 1.8 m Data cable to connect Sateline Easy Pro (35W) high power radio to GS14 GNSS receiver.

Serial data transfer cables

Art. no	Name	Connector 1	Connector 2	Description
733 280	GEV160	Lemo1, 8pin, 30°	RS232 serial, 9pin	Length 2.8 m Allows serial connection between GS10 (port 2 and 3), or GS15 (port 2) to PC to stream NMEA or RTK data.
733 282	GEV162	Lemo1, 8pin, 135°	RS232 serial, 9pin	Length 2.8 m 1. Allows serial connection between GS10/GS14/GS15 (port 1) to PC to stream NMEA or RTK data. 2. Allows serial connection between CS10/CS15 (with Lemo CBC01 connector module) and hidden point device, ASCII input device, PC etc.
733 283	GEV163	Lemo1, 8pin, 135°	Lemo1, 8pin, 135°	Length 1.8 m Allows serial connection between CS10/CS15 (with Lemo CBC01 connector module) and GS10/GS15 port 1.

USB to serial converter cables

Art. no	Name	Connector 1	Connector 2	Description
806 094	GEV268	Lemo1, 8pin, 30°	USB type A	Length 2.0 m Allows GS10 (port 2 and 3) or GS15 (port 2) to be connected to a PC where a serial connection is required, but no 9pin RS232 port physically exists on the PC. This cable allows a serial connection through the USB port of the PC to the CS or GS hardware.
806 095	GEV269	Lemo1, 8pin, 135°	USB type A	Length 2.0 m Allows CS10/CS15 (with Lemo CBC01 connector module) and GS10/GS14/GS15 port 1 to be connected to a PC where a serial connection is required, but no 9pin RS232 port physically exists on the PC. This cable allows a serial connection through the USB port of the PC to the GS hardware.

USB data transfer cables

Art. no	Name	Connector 1	Connector 2	Description
767 899	GEV234	Lemo1, 8pin, 135°	USB type A	Length 1.65 m 1. Allows a CS10/CS15 (with 9pin serial CBC02 connector module) to connect to a GS08plus/GS12 or GS10/GS14/GS15 (port 1). This is the cable needed for a cable connection needed between CS and GS when the CS is using the CBC02 connector module. 2. Allows a USB connection between the USB port of a PC to a GS08plus/GS12 or GS10/GS14/GS15 (port 1). 3. Allows a USB connection between the USB port of a PC to a CS10/CS15 (with Lemo CBC01 connector module).
764 700	GEV223	USB type A	Mini USB type B	Length 1.8 m Allows USB data transfer between CS10/CS15 (both connector modules) and a PC.
772 807	GEV237	Lemo1, 8pin, 135°	Lemo1, 8pin, 135°	Length 1.65 m Allows a CS10/CS15 (with Lemo CBC01 connector module) to connect to a GS08plus/GS12 or GS10/GS14/GS15 (port 1). This is the cable needed for a cable connection between CS and GS when the CS is using the CBC01 connector module.

Antenna cables for connecting GNSS antennas or RTK antennas

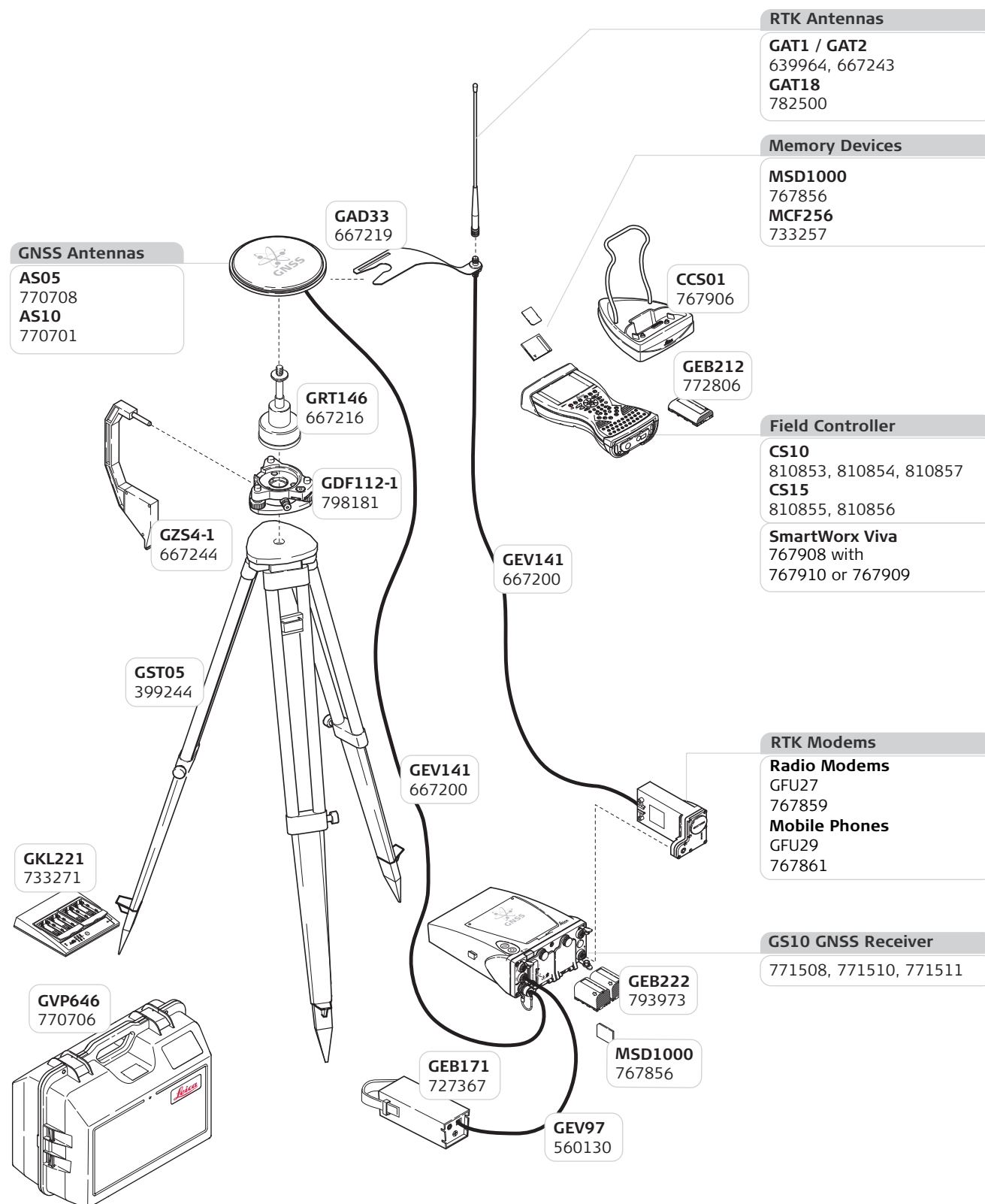
Art. no	Name	Connector 1	Connector 2	Description
667 200	GEV141	TNC connector	TNC connector	Length 1.2 m
772 002	GEV238	TNC connector	SMB connector	Length 1.2 m
667 201	GEV142	TNC connector	TNC connector (male)	Length 1.6 m Extension cable.
636 959	GEV120	TNC connector	TNC connector	Length 2.8 m
632 372	GEV119	TNC connector	TNC connector	Length 10 m
632 390	GEV108	TNC connector	TNC connector	Length 30 m
664 813	GEV134	TNC connector	TNC connector	Length 50 m

57 GS10 Real Time Rover - Pole plus Minipack

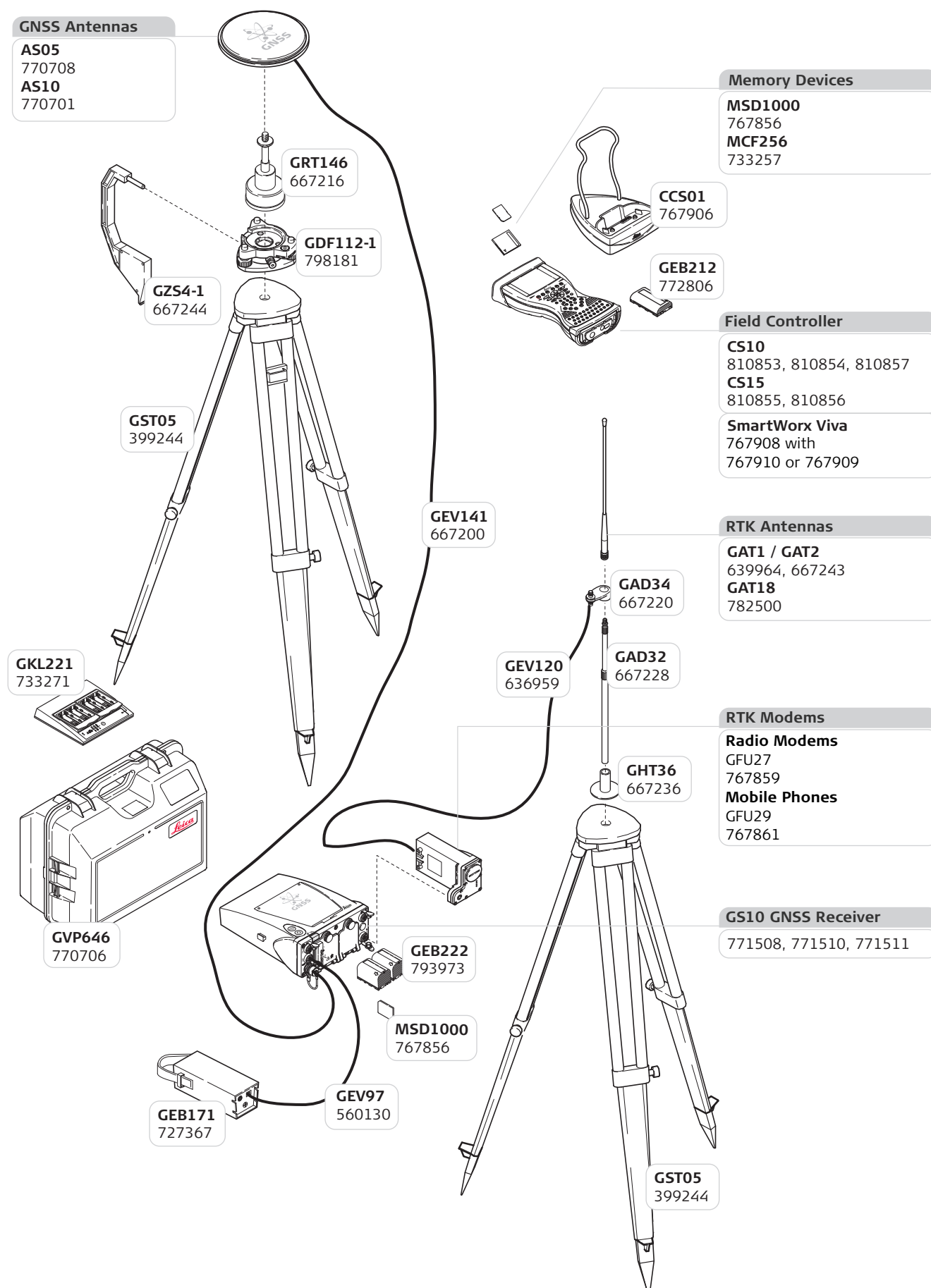


58 GS10 Real Time Reference - Tripod Setup

58.1 Using One Tripod



58.2 Using Two Tripods



59.1 Using One Tripod



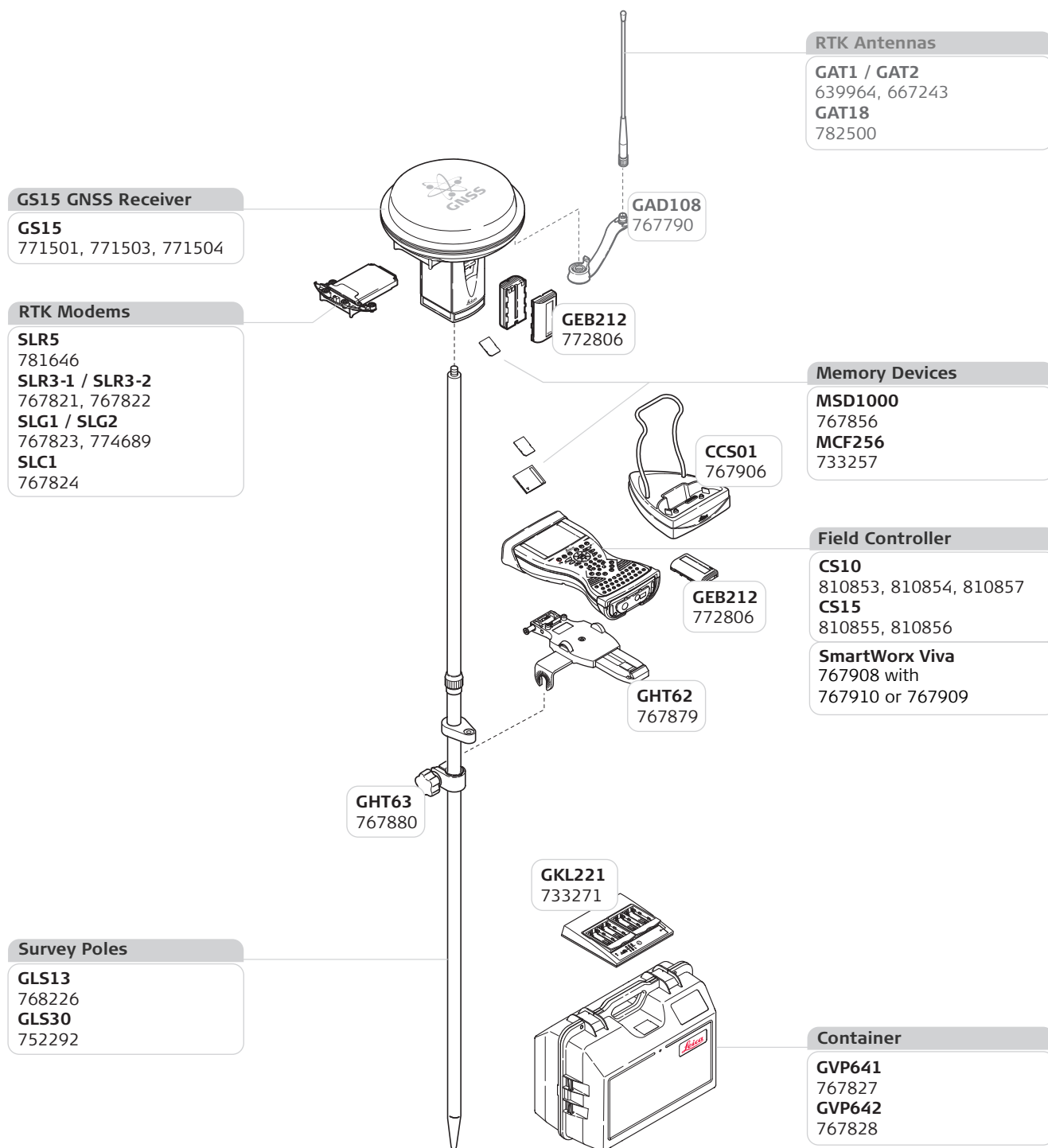
The diagram illustrates a GNSS receiver system setup. A central GNSS receiver is connected to various accessories via cables. The components and their part numbers are as follows:

- GNSS Antennas:**
 - AS05 770708
 - AS10 770701
- Memory Devices:**
 - MSD1000 767856
 - MCF256 733257
- Field Controller:**
 - CS10 810853, 810854, 810857
 - CS15 810855, 810856
 - SmartWorx Viva 767908 with 767910 or 767909
- RTK Antennas:**
 - GAT1 / GAT2 639964, 667243
 - GAT18 782500
- RTK Modems:**
 - Radio Modems:** SLR5-1 788725
 - Mobile Phones:** SLG1-2 776236
- GS25 GNSS Receiver:** 788246, 788245

Other components shown in the diagram include:

- GRT146 667216
- GDF112-1 798181
- GZS4-1 667244
- GST05 399244
- GEV141 667200
- GK1221 733271
- GVP704 790636
- GEB242 793975
- MSD1000 767856
- GEV97 560130
- GEB171 727367
- GAD34 667220
- GAD32 667228
- GHT36 667236
- GST05 399244

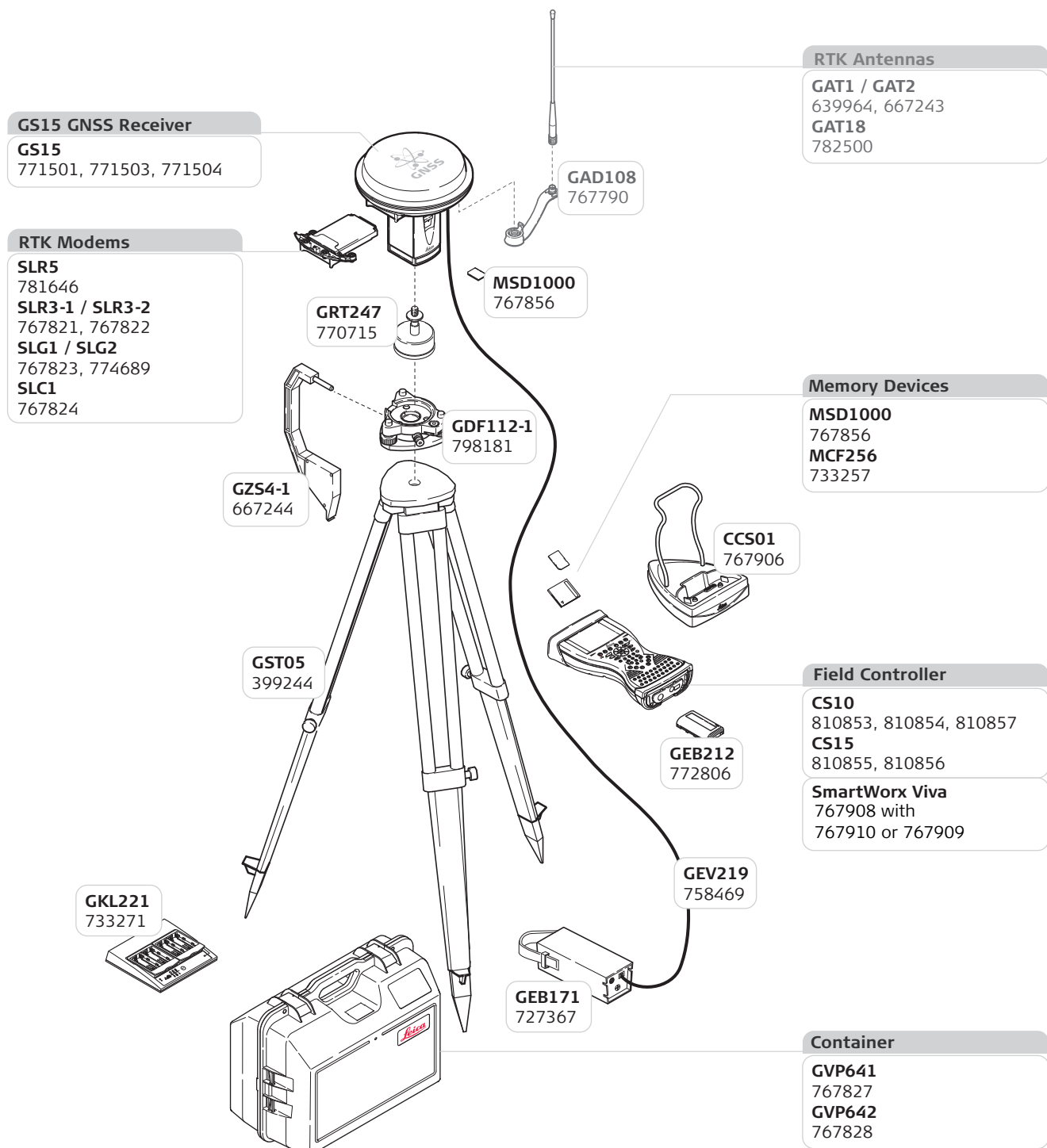
60 GS15 Real Time Rover



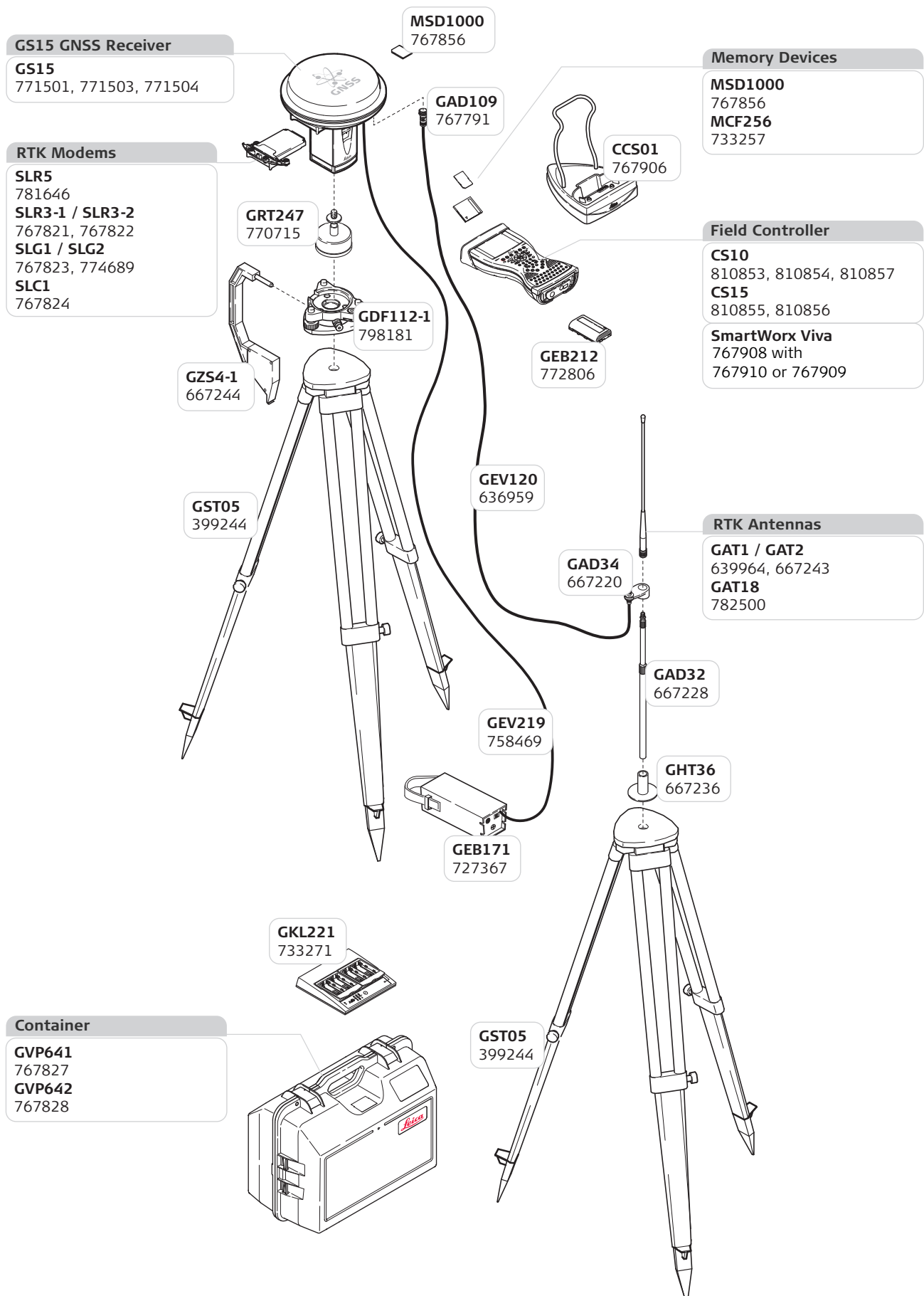
Please refer to the Leica TS11/TS15 or Leica Nova TPS MS50, TS50 and TM50 Equipment lists for the usage of a GS15 receiver in a SmartPole or SmartStation setup.

61 GS15 GNSS Real Time Reference - Tripod Setup

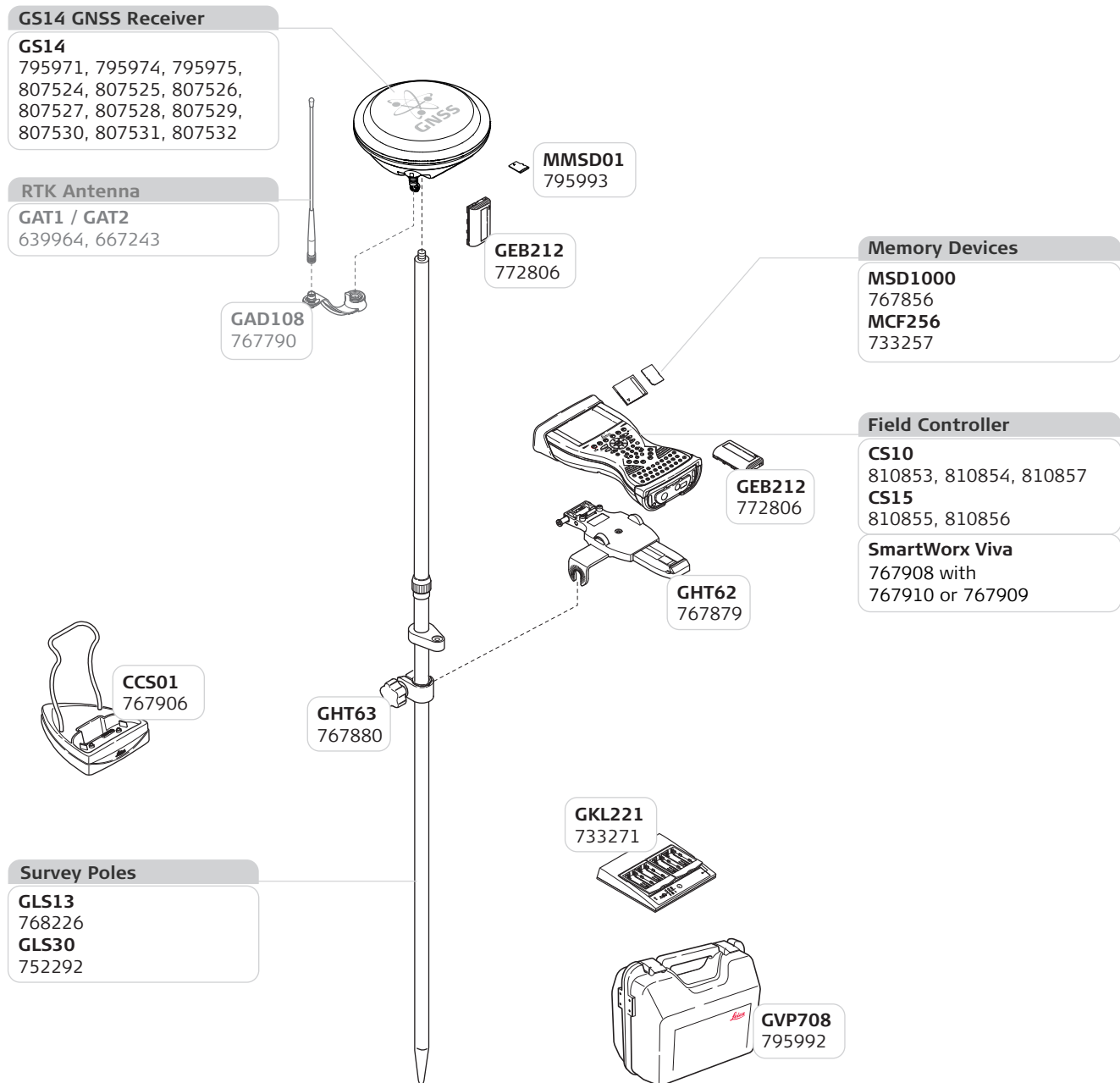
61.1 Using One Tripod



61.2 Using Two Tripods



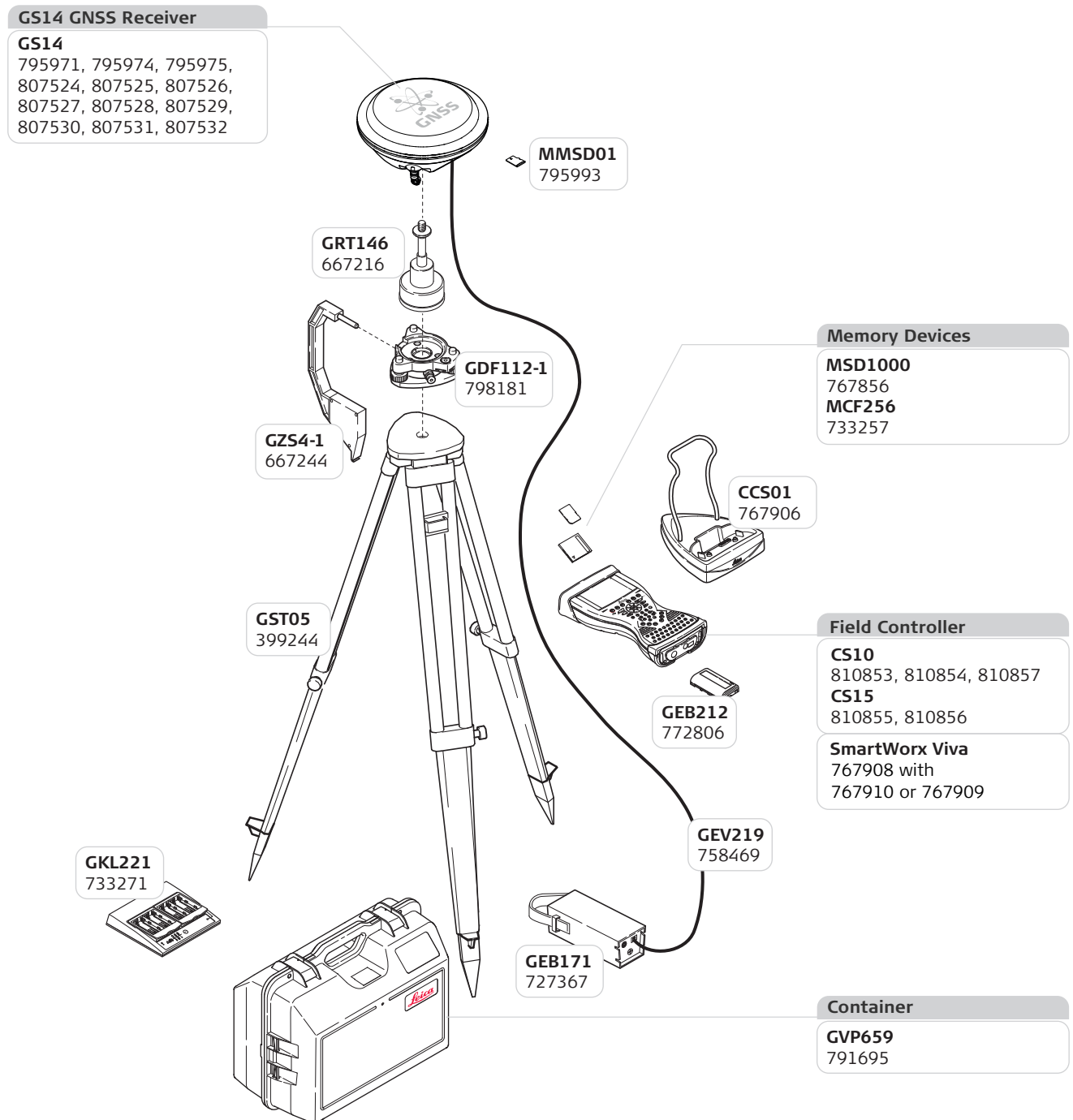
62 GS14 Pole Setup



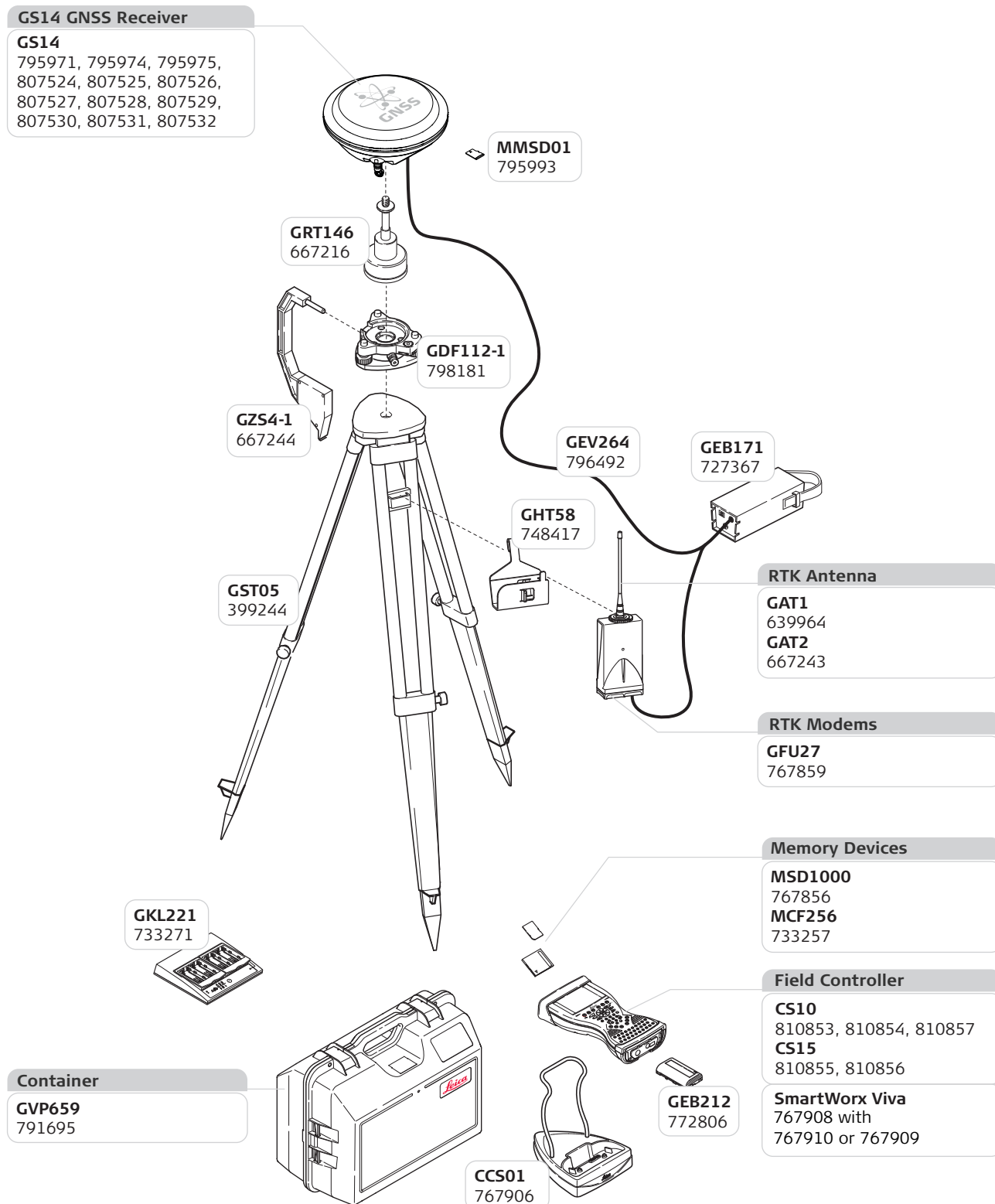
 Please refer to the Leica TS11/TS15 or Leica Nova TPS MS50, TS50 and TM50 Equipment lists for the usage of a GS14 receiver in a SmartPole or SmartStation setup.

63 GS14 Reference setup

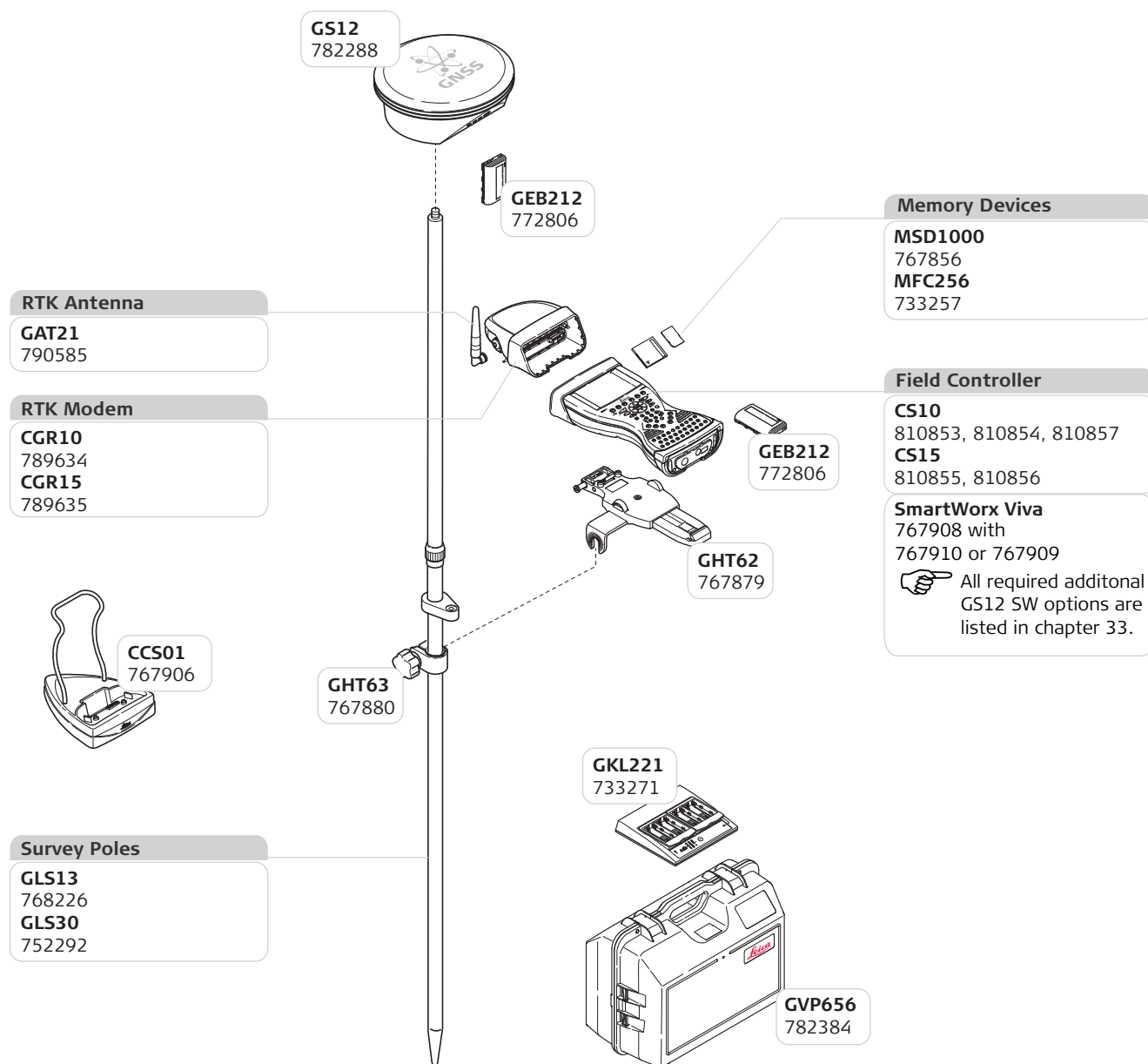
63.1 Using GS14 2G modem



63.2 Using external RTK module



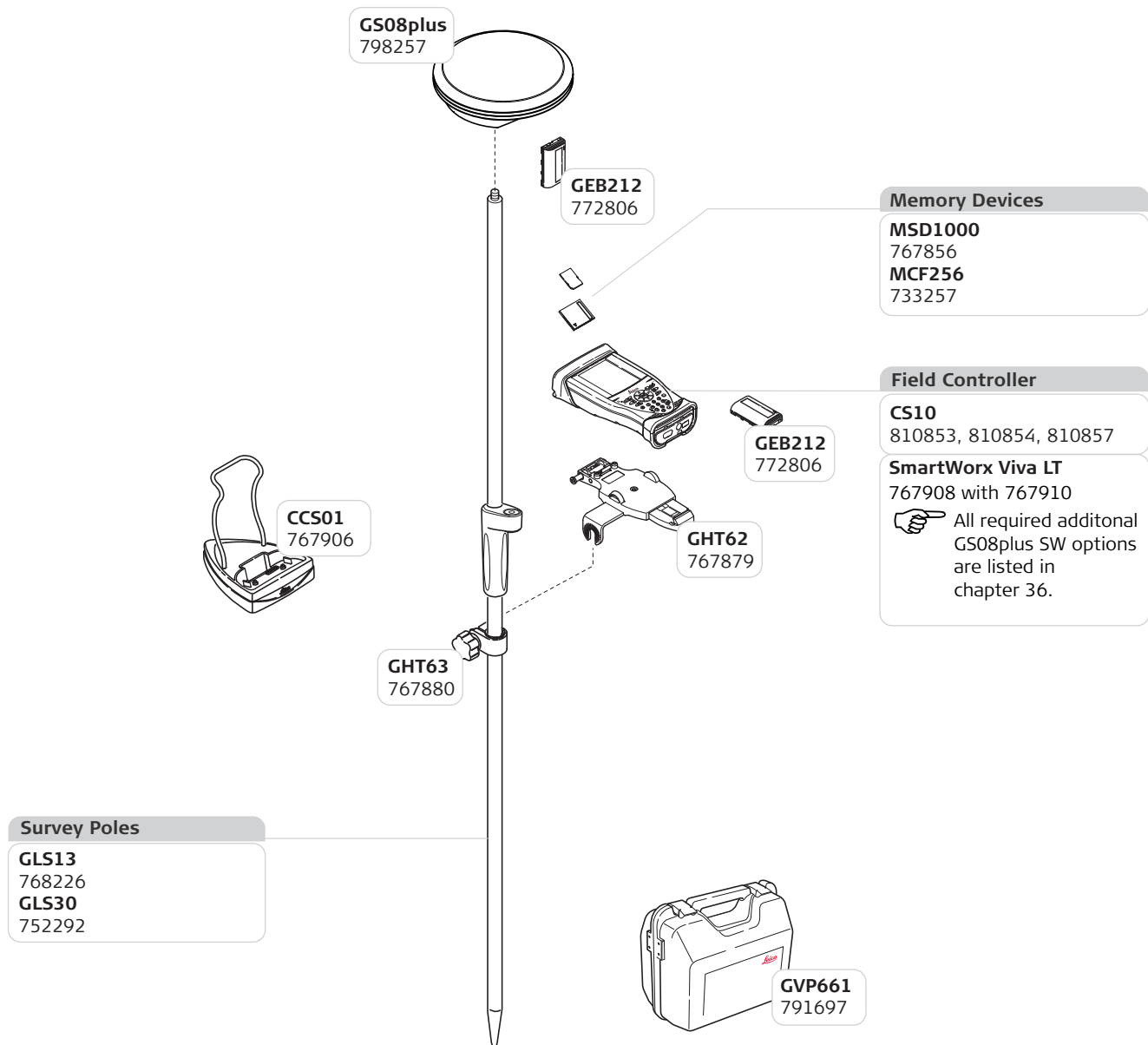
64 GS12 GNSS RTK Rover



Please refer to the Leica TS11/TS15 or Leica Nova TPS M550, TS50 and TM50 Equipment lists for the usage of a GS12 receiver in a SmartPole or SmartStation setup.

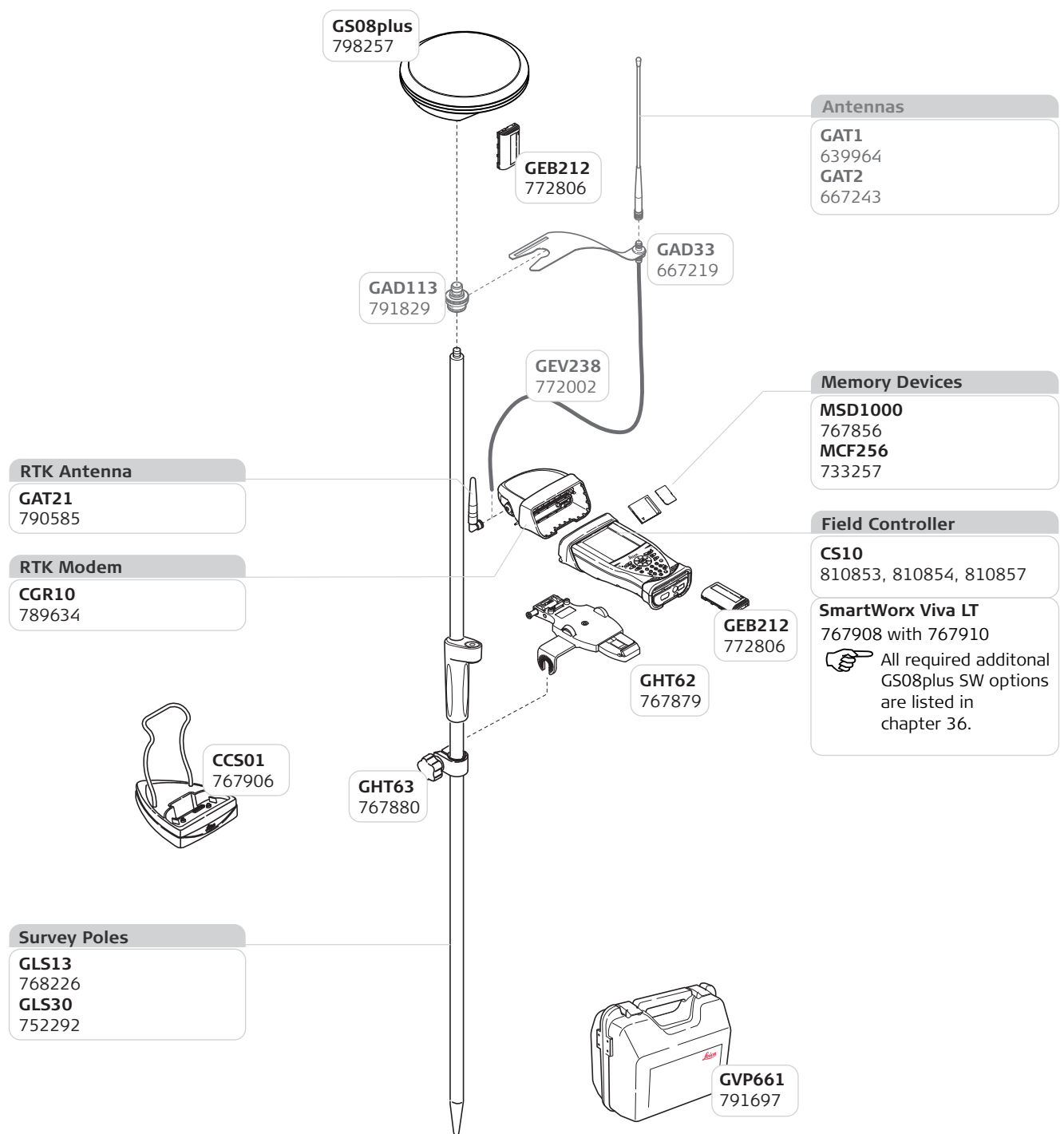
65 GS08plus Real Time Rover

65.1 Using CS 3.5G modem

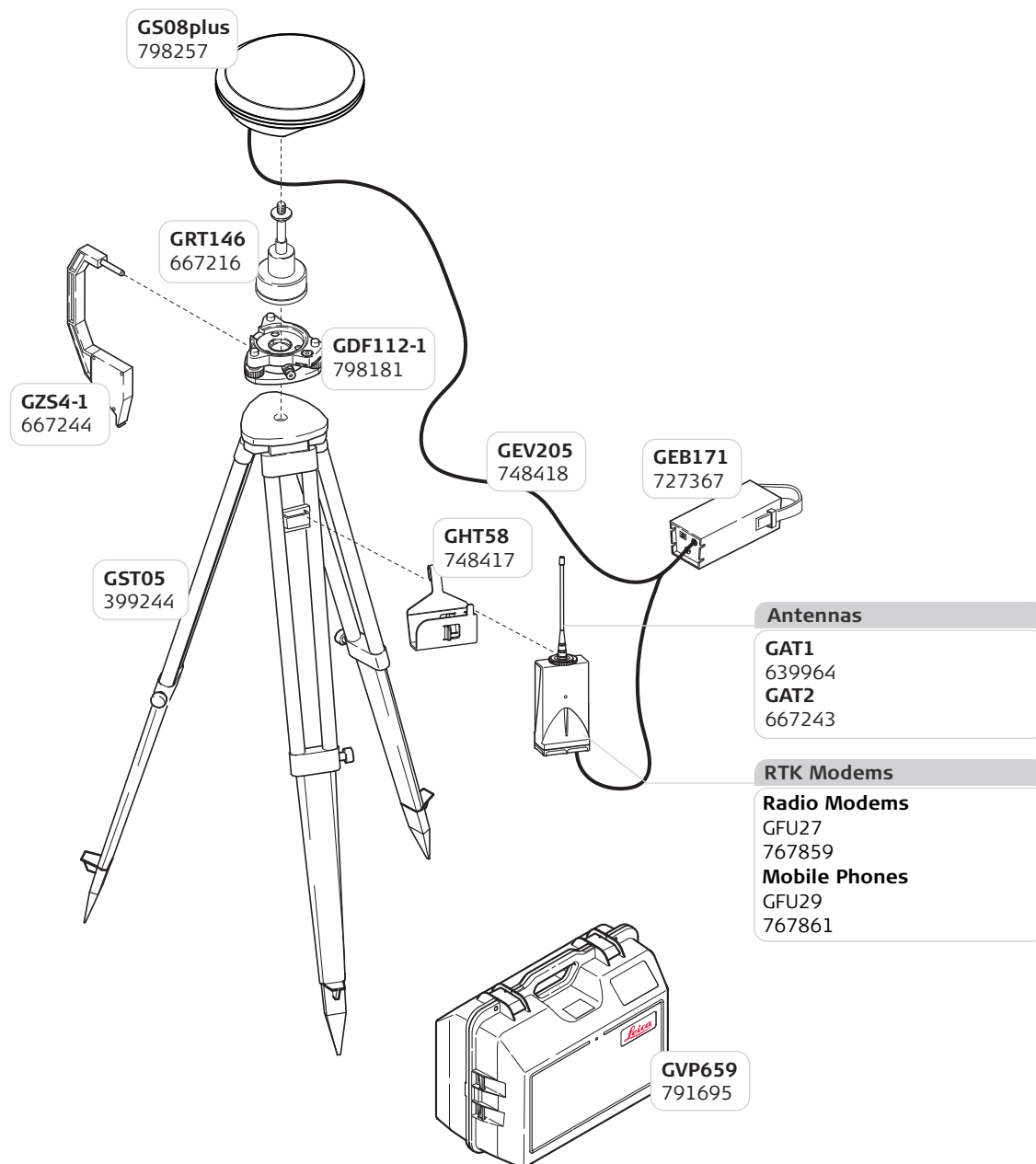


Please refer to the Leica TS11/TS15 or Leica Nova TPS MS50, TS50 and TM50 Equipment lists for the usage of a GS08plus receiver in a SmartStation setup.

65.2 Using CGR UHF radio

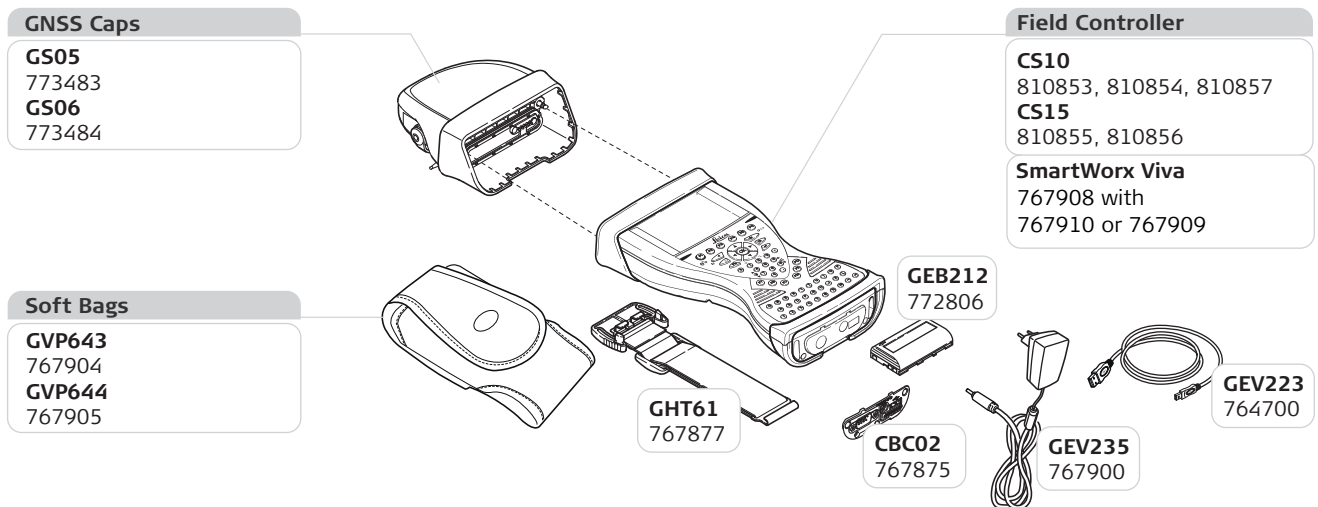


66 GS08plus GNSS Real Time Reference - Tripod Setup

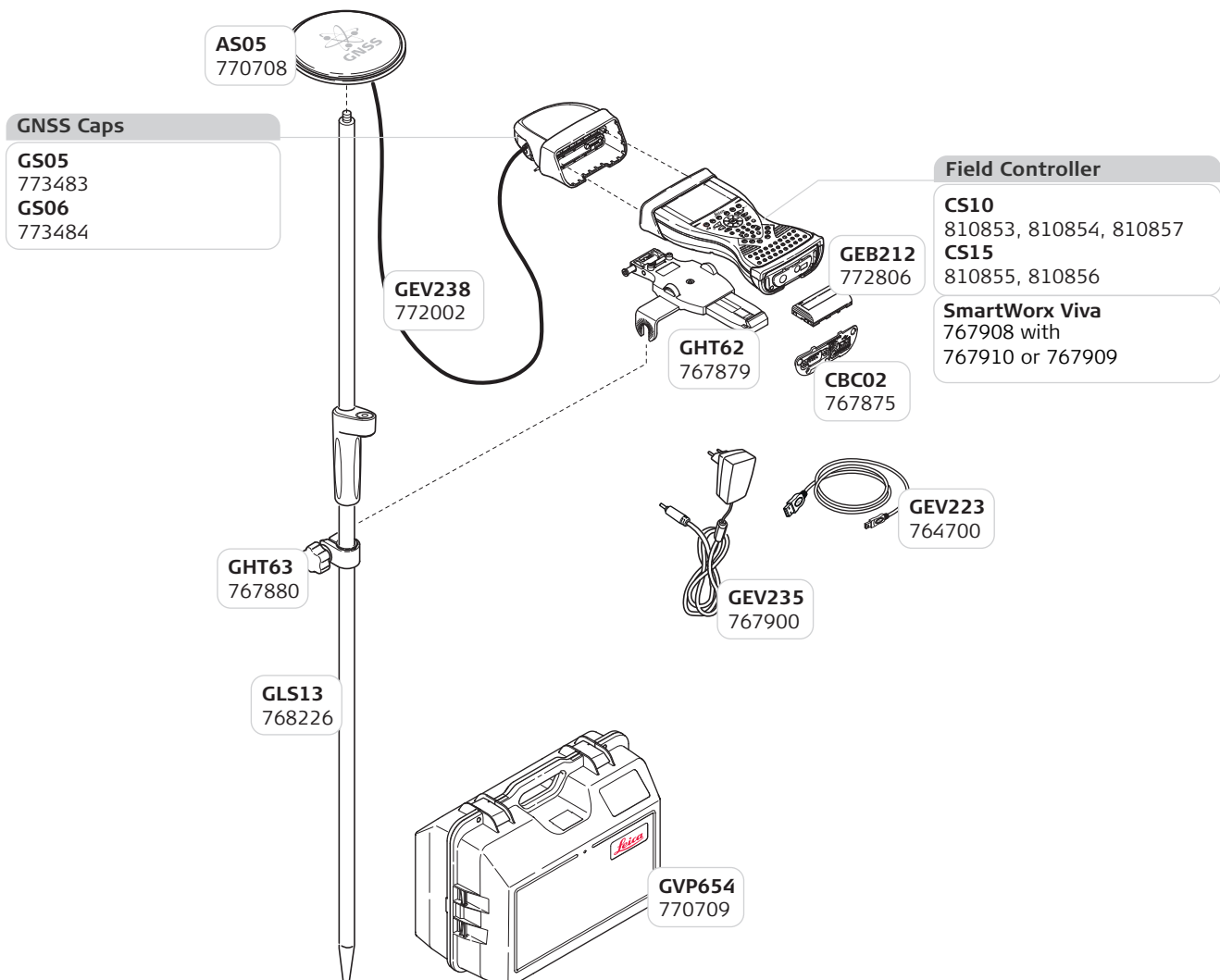


67 Viva Uno GNSS Receiver

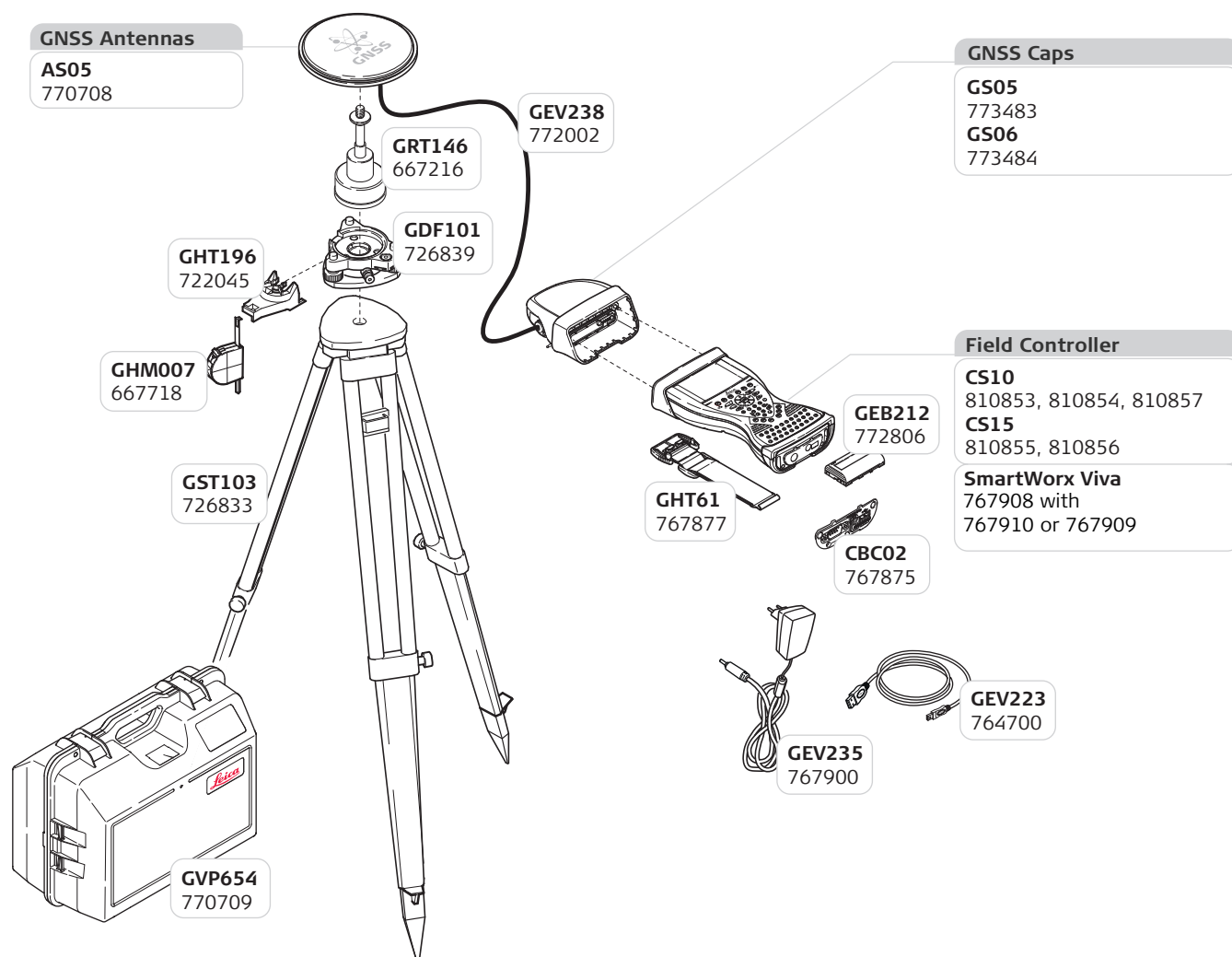
67.1 Viva Uno - Hand-held



67.2 Viva Uno GNSS Rover - Pole



67.3 Viva Uno GNSS Base - Tripod



68.1 Satellite High Power Radio Setup with GS14

GS14
795971, 795974, 795975,
807524, 807525, 807526,
807527, 807528, 807529,
807530, 807531, 807532

GAT23 / GAT24
806099, 806100

GST74
806098

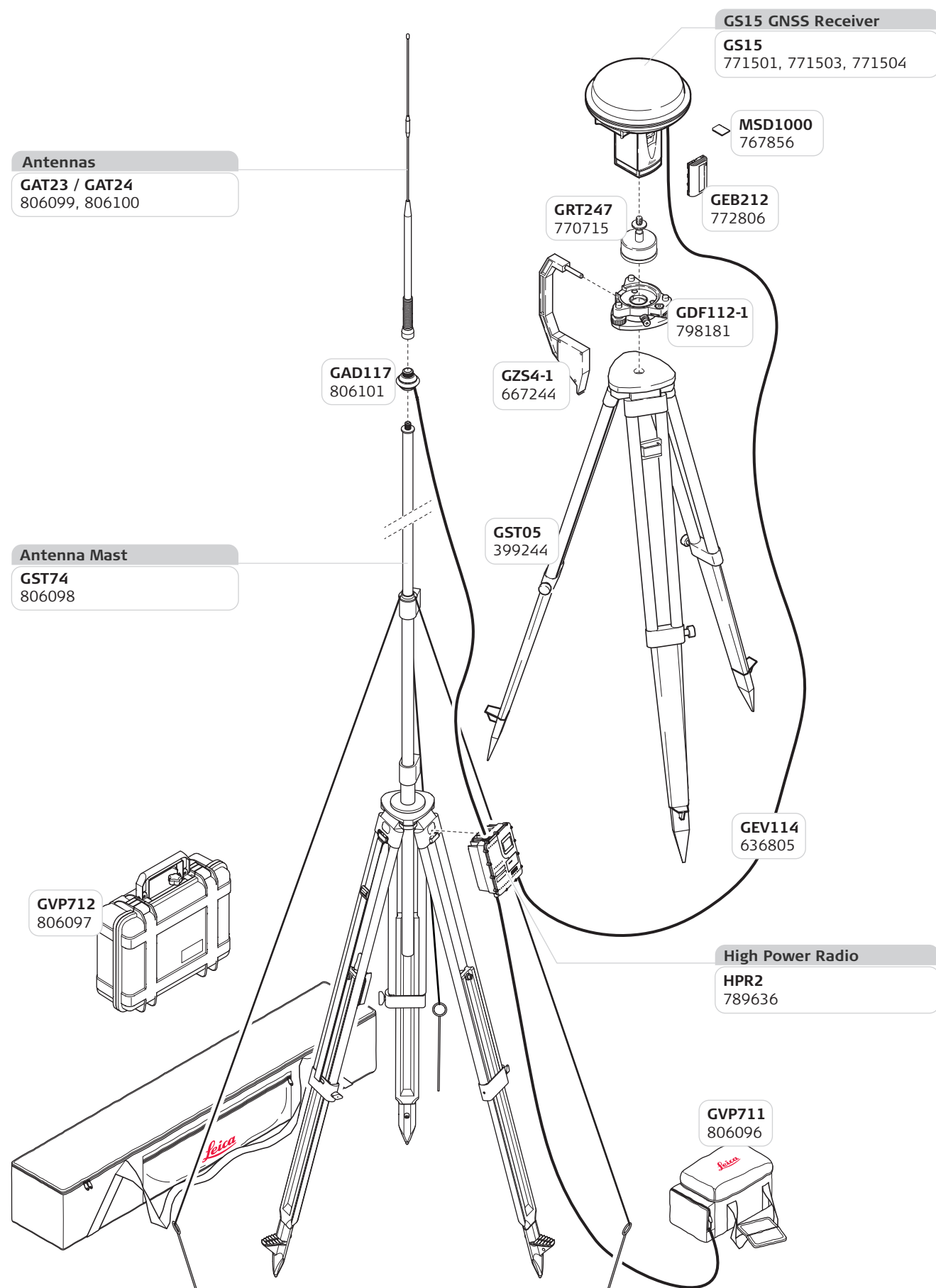
GVP712
806097

HPR2
789636

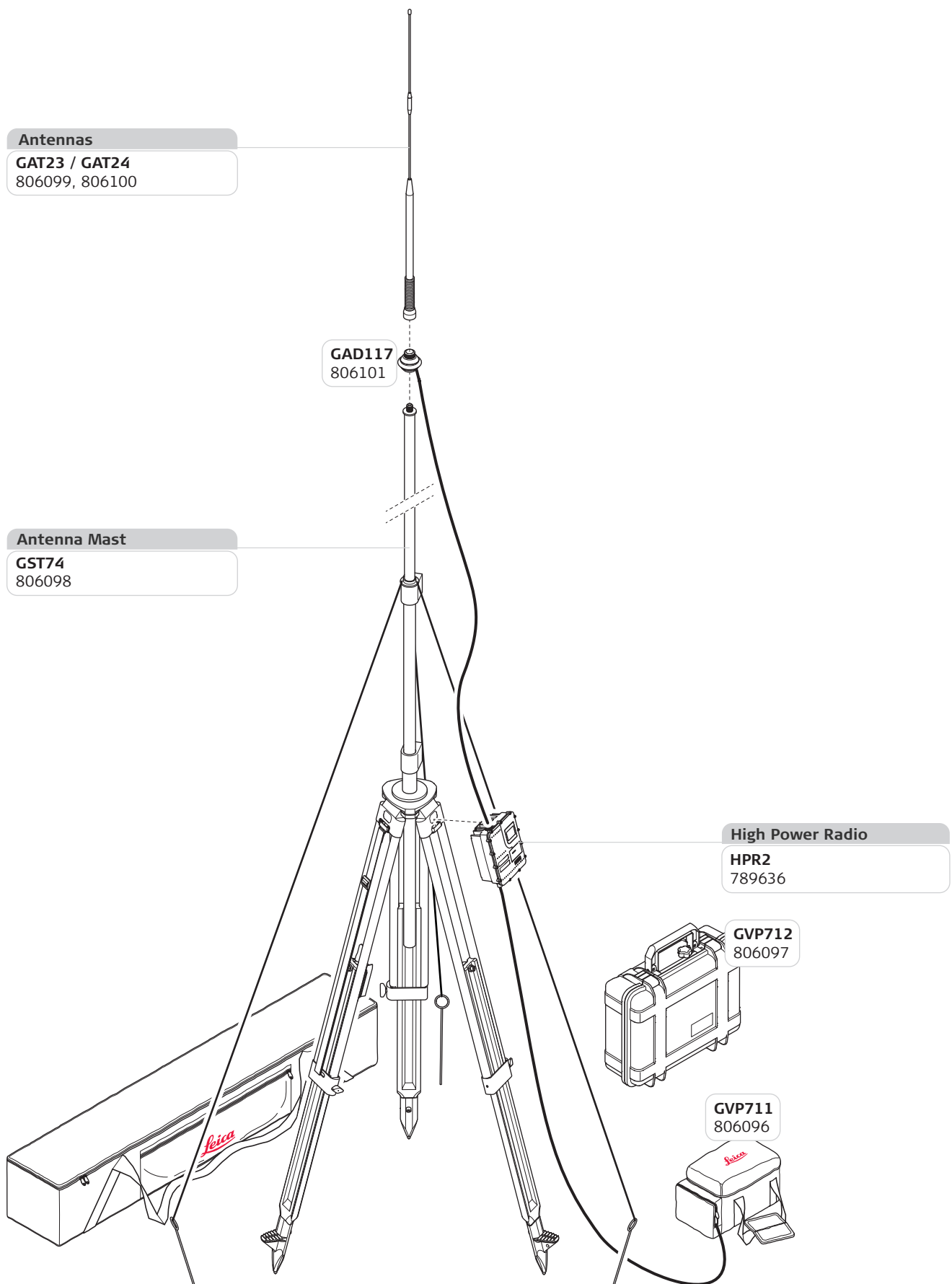
GVP711
806096



68.2 Satellite High Power Radio Setup with GS15



68.3 Satellite High Power Radio Setup - Standalone



Whether you want to stake-out an object on a construction site or you need accurate measurements of a tunnel or a bridge; whether you want to determine the area of a parcel of land or need the position of a power pole or to capture objects for as-built maps - you need reliable and precise data.

Leica Viva combines a wide range of innovative products designed to meet the daily challenges for all positioning tasks. The simple yet powerful and versatile Leica Viva hardware and software innovations are redefining state-of-the-art technology to deliver maximum performance and productivity. Leica Viva gives you inspiration to make your ambitious visions come true.

When it has to be right.



**Total Quality Management - our
commitment to total customer
satisfaction.**

Ask your local Leica Geosystems dealer for
more information about our TQM program.

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- when it has to be **right**

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Geosystems